PIONEER

The Art of Entertainment

Service Manual

● KEH-P9200RDS/EW

ORDER NO.
CRT1638

MULTI-CD/DSP CONTROL FM/MW/LW TUNER DECK AMPLIFIER

KEH-P9200RDS EW

KEH-P9200RDS X1BEW

KEH-P8200RDS EW

KEH-P8200RDS X1BEW

MULTI-CD/DSP CONTROL FM/MW/LW TUNER DECK

KEX-P820RDS EW

NOTE:

- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **See the separate manual CX-631 (CRT1640) for the cassette mechanism description.**
- **The cassette mechanism employed in this model is one of 『X-2L』 mechanism series.**

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4346

K-FFA. FEB. 1995 Printed in Japan

● Service Precautions

1. This device employs an inverter as the power supply for the EL. The inverter has an output voltage reach approximately 300 Vrms (AC), under no-load condition and about 160 Vrms (AC), with the EL connected. Utmost cars should be used not to suffer from a possible electric shock, accordingly.

1. DISASSEMBLY

● Removing the Case(not shown)

1. Insert and turn a flat screwdriver to remove the case.
2. Raise the case to remove.

● Removing the Cassette Mechanism Module (not shown)

1. Remove the four screws.
2. Disconnect the connector.
3. Remove the cassette mechanism module.

● Removing the Detach Grille Assy(not shown)

1. Press the detach button.
2. Press the button and then remove the detach grille assy.

● Removing the Panel Assy

1. Remove the two screws, and disconnect the two connectors.
2. Disengage the stoppers at four locations indicated by arrows.
3. Remove the panel assy.

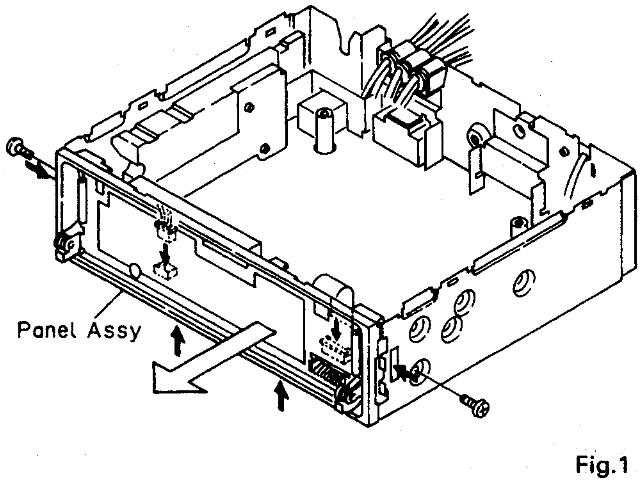


Fig.1

● Removing the Tuner Amp Unit

1. Remove the six screws A.
2. Remove the screw B and then remove the holder.
3. Unbend the tabs at three locations indicated by arrows until straight.
4. Raise up on tuner amp unit to remove it from chassis unit.

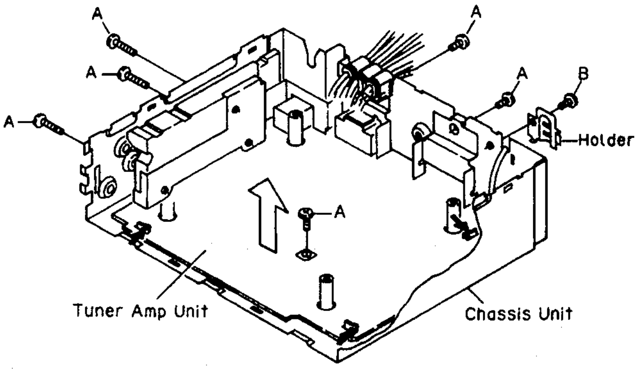


Fig.2

2. ADJUSTMENT

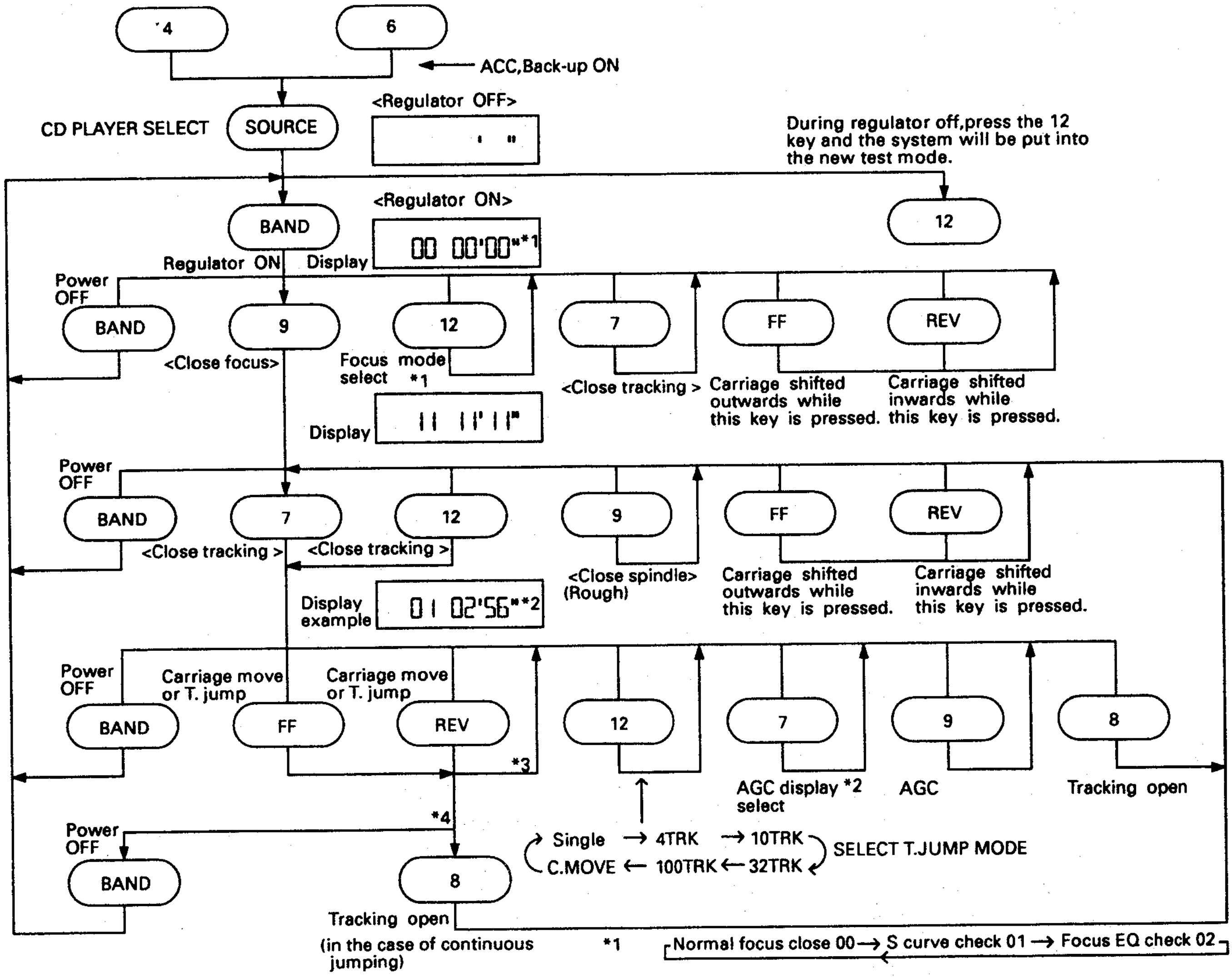
2.1 CD ADJUSTMENT

● Test Mode

Test mode is mainly used adjustment of IP BUS type CD multi players.(Such as CDX-P610)

- Switching to test mode
  While pressing the 4, 6 keys together, switch the back up and ACC ON.
- Canceling test mode
  Switch the back up and ACC off.
- SINGLE/10TRK/32TRK will continue to operate even after the key is released.Tracking closed the moment C-MOVE is released.
- JUMP MODE resets to SINGLE as soon as power is switched off.

● Flow Chart


4
6
ACC,Back-up ON
CD PLAYER SELECT
SOURCE
<Regulator OFF>
' "
During regulator off,press the 12 key and the system will be put into the new test mode.
12
BAND
<Regulator ON>
Regulator ON
Display
00 00'00"*1
Power OFF
BAND
9
<Close focus>
12
Focus mode select *1
Display
11 11'11"
7
<Close tracking >
FF
Carriage shifted outwards while this key is pressed.
REV
Carriage shifted inwards while this key is pressed.
Power OFF
BAND
7
<Close tracking >
12
<Close tracking >
Display example
01 02'56"*2
9
<Close spindle> (Rough)
FF
Carriage shifted outwards while this key is pressed.
REV
Carriage shifted inwards while this key is pressed.
Power OFF
BAND
Carriage move or T. jump
FF
Carriage move or T. jump
REV
*3
12
7
AGC display *2 select
9
AGC
8
Tracking open
*4
Power OFF
BAND
8
Tracking open
(in the case of continuous jumping)
Single → 4TRK → 10TRK
C.MOVE ← 100TRK ← 32TRK
SELECT T.JUMP MODE

*1 Normal focus close 00 → S curve check 01 → Focus EQ check 02

*2 Normal display → Focus gain → Track gain

*3 100 TRK jump & carriage move continue only while the keys are pressed.

*4 SINGLE/4/10/32 → continuous even after key release.

● Indicating An Error Number

If the CD should fail to operate in CD multi player or if an error has taken place during the operation and resulted in an error, the player will enter into the error mode. And the cause of such error is numerically indicated.
This is armed at assisting an analysis or repair.

(1) Basic Means of Display

- With ERROR indicated in "MODE" on IP-BUS Display date, an error code is transmitted by the use of MIN and SEC. Identical date are transmitted with MIN and SEC.
- Examples of Display ERROR-XX

(2) Error Codes

Error Code	Classification	Description	Cause/Detail
10	ELECTRIC	Carriage home failure	Carriage doesn't move to or from the innermost position →Home switch failed and/or carriage immobile
11	ELECTRIC	Focus failure	Focus failed →Defects, disc upside-down, severe vibration
12	ELECTRIC	SETUP failure Subcode failure	Spindle failed to lock or subcode unreadable →Spindle defective, defect, severe vibration
14	ELECTRIC	Mirror failure	Unrecorded CD-R The disc is upside-down, defects, vibration
17	ELECTRIC	Set up failure	AGC protect failed →Defects, disc upside-down, severe vibration
30	ELECTRIC	Search time out	Failed to reach target address →Carriage/tracking defective and/or defects
A0	SYSTEM	Power failure	Power overvoltage or short circuit detected →Switching transistor defective and/or power abnormal
50	MECHANISM	An error upon ejection	MAG switch release time has time out Elevation time out when eject
60	MECHANISM	An error while putting in and out the tray	Tray in / out time has time out Tray is caught when put in
70	MECHANISM	An error upon elevation	Elevation time has time out
80	MECHANISM	An error with an empty magazine inserted	No disc is available

* Setup means a series of operations after focusing up to sound output.

● New Test Mode(aging operation and setup analysis)

The single CD player plays in normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disc number)
During the setup, the CD software operation status (internal RAM and C-point)is displayed.

(1) How to enter NEW TEST Mode

See the test mode flow chart Page 3.

(2) Relations of keys between TEST and NEW TEST Modes

Keys	Test Mode		New Test Mode	
	Regulator OFF	Regulator ON	PLAY in progress	Error Occurred, Protection Activated
BAND	Regulator ON	Regulator OFF	—	Time of occurrence / cause of error select
FF	—	FWD-Kick	TRACK UP / FF	—
REV	—	REV-Kick	TRACK DOWN /REV	—
7	—	Tracking close	RPT	—
8	—	Tracking open	RANDOM	—
9	—	Focus close	ITS	—
12	To New Test Mode	Focus Mode Select	PAUSE	—

Operations, such as EJECT, CD ON/OFF, etc. are performed normally

(3) Error Cause (Error Number) Code

Error Code	Classification	Mode	Description	Cause	Detail
40	ELECTRIC	PLAY	FOK=L 100ms	Put out of focus	Scratch, Stain, Vibration, Servo defect, etc...
41	ELECTRIC	PLAY	LOCK=L 150ms	Spindle unlock	
42	ELECTRIC	PLAY	Subcode unacceptable 500ms	Failed to read subcode	
43	ELECTRIC	PLAY	Sound skipped	Last address memory operated	

(4) Indicating an Operation Status During Setup

Status No.	Description	Protection operation
01	Carriage home mode started	None
02	Carriage moving inwards	10-second time out, home switch failed
03	Carriage moving outwards	10-second time out, home switch failed
05	Carriage moving outwards	None
11	Setup started	None
12	Spindle turn/Focus search started	None
13	Waiting for focus closure (XSI=L)	Failure to close focus
10,14	Waiting for focus closure (FOK=H)	Failure to close focus
15,16,17	Focus closed, Tracking open	Focus disrupted
18	During focus AGC Subcode waiting	Focus disrupted
19	During tracking AGC	Disrupted focus
20	Waiting for MIRR, LOCK or subcode read Carriage closed, SPINDLE=ADAPTIVE	Focus disrupted, MIRR NG, failure to lock, failed to read subcode

(5) Example of Display.

- SET UP in progress

TNo.	Min	Sec
11	11	11

- Operation (PLAY, SEARCH, etc.) in progress perfectly identical with that in the normal mode.

- Protection/Error upon occurrence

(a) Error number indicated

ERROR–xx

Select the display with the BAND key.

(b) Track number and absolute time indicated

TNo.	Min	Sec
10	40	05

2.2 TUNER/AUDIO ADJUSTMENT

● Connection Diagram

NOTE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

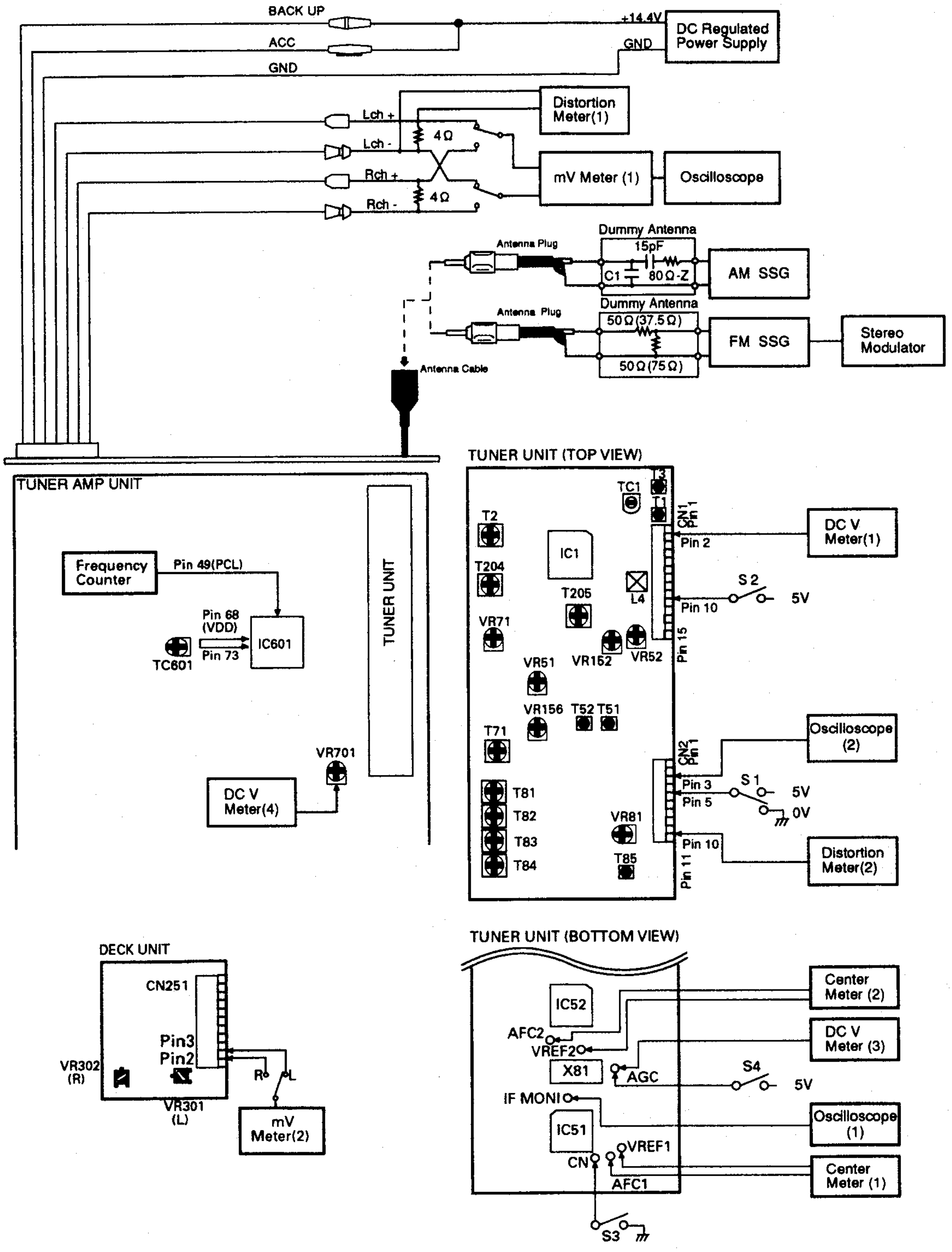

BACK UP
ACC
GND
+14.4V
GND
DC Regulated Power Supply
Lch +
Lch -
Rch +
Rch -
4Ω
4Ω
Distortion Meter(1)
mV Meter (1)
Oscilloscope
Antenna Plug
Dummy Antenna
15pF
C1
80Ω-Z
AM SSG
Antenna Plug
Dummy Antenna
50Ω(37.5Ω)
50Ω(75Ω)
FM SSG
Stereo Modulator
Antenna Cable
TUNER AMP UNIT
Frequency Counter
Pin 49(PCL)
Pin 68 (VDD)
Pin 73
IC601
TC601
TUNER UNIT
VR701
DC V Meter(4)
TUNER UNIT (TOP VIEW)
TC1
T3
T1
T2
IC1
T204
T205
L4
VR71
VR51
VR152
VR52
VR156
T52
T51
T71
T81
T82
T83
T84
VR81
T85
CN1 Pin 1
Pin 2
Pin 10
Pin 15
DC V Meter(1)
S 2
5V
CN2 Pin 1
Pin 3
Pin 5
Pin 10
Pin 11
Oscilloscope (2)
S 1
5V
0V
Distortion Meter(2)
DECK UNIT
CN251
Pin3
Pin2
VR302 (R)
VR301 (L)
R
L
mV Meter(2)
TUNER UNIT (BOTTOM VIEW)
IC52
AFC2
VREF2
X81
AGC
IF MONI
IC51
VREF1
CN
AFC1
S3
S4
5V
Center Meter (2)
DC V Meter (3)
Oscilloscope (1)
Center Meter (1)

Fig.3

MW/LW ADJUSTMENT

	No.	AM SSG(400Hz,30%) Frequency(kHz)	AM SSG(400Hz,30%) Level(dBμV)	Displayed Frequency(kHz)	Adjustment Point	Adjustment Method (Switch Position)
IF	1	999	20	999	T204,T205	mV Meter(1) : Maximum

FM ADJUSTMENT(KEH-P9200RDS/EW, X1BEW)

Modulation M:MONO MOD., 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG Frequency(MHz)	FM SSG Level(dBf)	Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
TUN Volt	1	·····	·····	108.0	L4	DC V Meter(1) : 6.5V±0.1V
IF	1	98.1 M	65	98.1	T85	Center Meter(1) : 0 (S1:0V)
	2	98.1 M	65	98.1	T51	Center Meter(2) : 0 (S1:0V)
	3	98.1 M	65	98.1	T52	Distortion Meter(2) : Minimum (S1:0V)
	4	Repeat No.2–3 alternately so that the center meter indicates the 0 output and distortion meter indicates the minimum output.				
ANT,RF	1	106.1 M	5–15	106.1	TC1	mV Meter(1) : Maximum (S1:0V)
	2	89.9 M	5–15	89.9	T1,T3	
	3	Repeat No.1–2 alternately so that the mv meter indicates the maximum output.				
IMAGE	1	129.3 M	70–90	107.9	TC1	mV Meter(1) : Minimum (S1:0V)
IFT	1	98.1 M	5–15	98.1	T2	mV Meter(1) : Maximum (S1:0V)
IHF	1	98.1 M	13	98.1	T71	mV Meter(1) : Maximum (S1:0V)
Max Sep	1	98.1 S	65	98.1	VR152	mV Meter(1) : Separation Maximum (S1:0V)
ST,THD	1	98.1 S	65	98.1	T71	mV Meter(1) : Minimum (S1:0V)
Max Sep	1	98.1 S	65	98.1	VR152	mV Meter(1) : Separation Maximum (S1:0V)
Dynas Filter	1	98.1 M	50	98.1	T83,T84	Oscilloscope(1) : Maximum (S1:5V) (S3:ON) (S4:5V)
	2	118.1 M	50	118.1	T81	
	3	78.1 M	50	78.1	T82	
IF Gain	1	98.1 M	14	98.1	VR71	DC V Meter(3) : 4V±0.1V S1:0V(Gnd),S2:0V(OFF),S3:0V(ON),S4:0V(OFF)
Soft Mute	1	98.1 M	65	98.1	•••••	mV Meter(1) : A(0dB)(STEREO MODE)
	2	98.1 M	15	98.1	VR81	mV Meter(1) : A-3dB
ARC	1	98.1 S	40	98.1	VR52	mV Meter(1) : Separation 5dB±3dB (STEREO MODE)
SD	1	98.1 S	22	98.1	VR51	Oscilloscope(2) : Approx. 3V(S2:5V)

FM ADJUSTMENT(KEH-P8200RDS/EW, X1BEW, KEX-P820RDS/EW)

Modulation M:MONO MOD., 400Hz 100%(75kHz Dev.)
S :STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG Frequency(MHz)	FM SSG Level(dBf)	Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
TUN Volt	1	·····	·····	108.0	L4	DC V Meter(1) : 6.5V±0.1V
IF	1	98.1 M	65	98.1	T51	Center Meter(2) : 0 (S1:0V)
	2	98.1 M	65	98.1	T52	Distortion Meter(1) : Minimum (S1:0V)
	3	Repeat No.1–2 alternately so that the center meter indicates the 0 output and distortion meter indicates the minimum output.				
ANT,RF	1	106.1 M	5–15	106.1	TC1	mV Meter(1) : Maximum (S1:0V)
	2	89.9 M	5–15	89.9	T1,T3	
	3	Repeat No.1–2 alternately so that the mv meter indicates the maximum output.				
IMAGE	1	129.3 M	70–90	107.9	TC1	mV Meter(1) : Minimum (S1:0V)
IFT	1	98.1 M	5–15	98.1	T2	mV Meter(1) : Maximum (S1:0V)
IHF	1	98.1 M	13	98.1	T71	mV Meter(1) : Maximum (S1:0V)
Max Sep	1	98.1 S	65	98.1	VR152	mV Meter(1) : Separation Maximum (S1:0V)
ST,THD	1	98.1 S	65	98.1	T71	mV Meter(1) : Minimum (S1:0V)
Max Sep	1	98.1 S	65	98.1	VR152	mV Meter(1) : Separation Maximum (S1:0V)
Soft Mute	1	98.1 M	65	98.1	·····	mV Meter(1) : A(0dB)(STEREO MODE)
	2	98.1 M	15	98.1	VR156	mV Meter(1) : A-3dB
ARC	1	98.1 S	40	98.1	VR52	mV Meter(1) : Separation 5dB±3dB (STEREO MODE)
SD	1	98.1 S	22	98.1	VR51	Oscilloscope(2) : Approx. 3V(S2:5V)

CLOCK ADJUSTMENT

No.	Adjustment Point	Adjustment Method Point
1		Pin73 of IC601 connect to 5V
2	TC601	Frequency Counter : 1.048576MHz±2Hz

RDS SL ADJUSTMENT

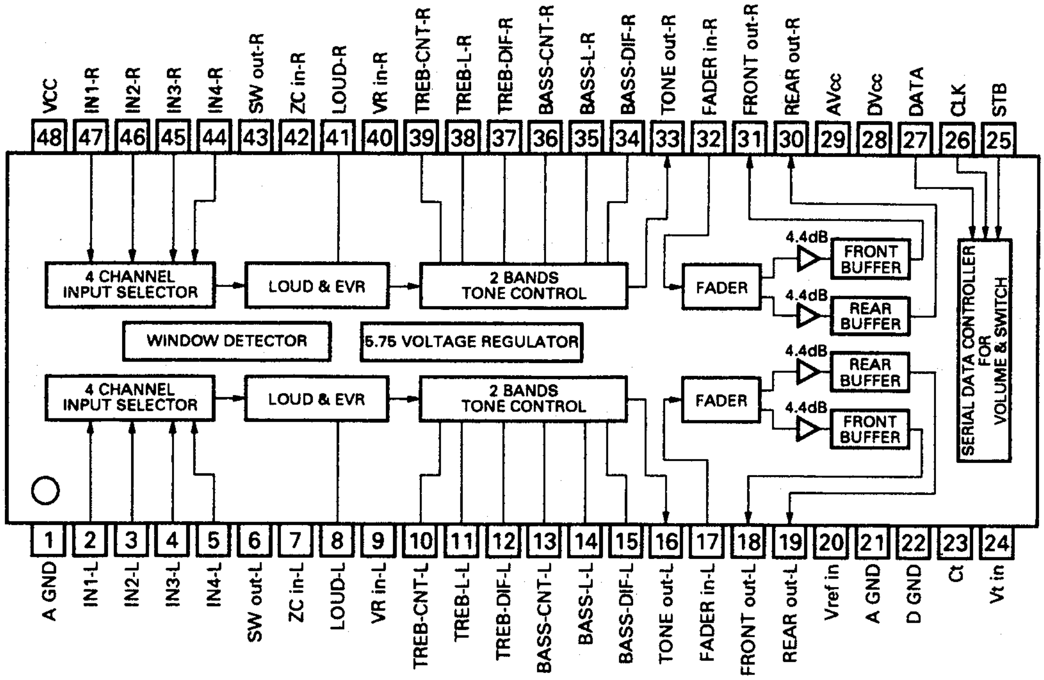
No.	FM SSG Frequency(MHz)	FM SSG Level(dBf)	Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
1	98.1 S	45	98.1	VR701	DC V Meter(4) : 1.75V±0.05V

DOLBY B/C NR ADJUSTMENT

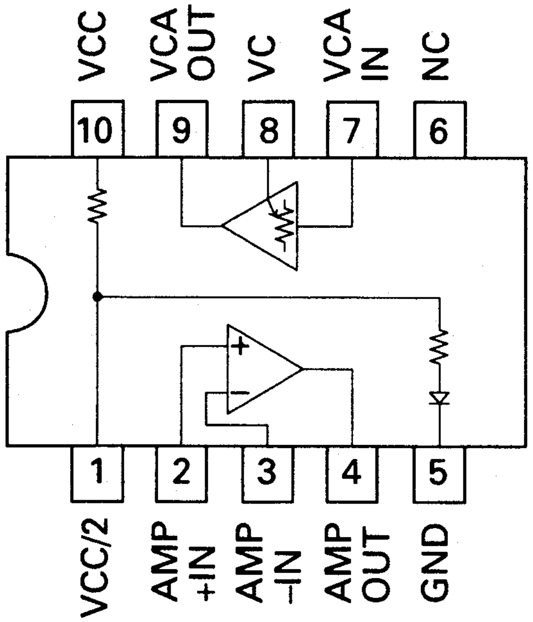
No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : –6.0dBs+1.5dB -0.5dB (DOLBY NR Switch : OFF)

● ICs

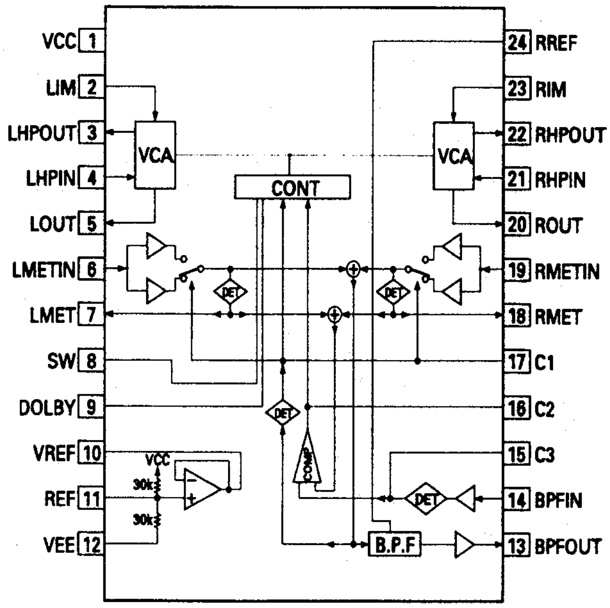
SN761025DL


48 VCC
47 IN1-R
46 IN2-R
45 IN3-R
44 IN4-R
43 SW out-R
42 ZC in-R
41 LOUD-R
40 VR in-R
39 TREB-CNT-R
38 TREB-L-R
37 TREB-DIF-R
36 BASS-CNT-R
35 BASS-L-R
34 BASS-DIF-R
33 TONE out-R
32 FADER in-R
31 FRONT out-R
30 REAR out-R
29 AVcc
28 DVcc
27 DATA
26 CLK
25 STB
4 CHANNEL INPUT SELECTOR
LOUD & EVR
2 BANDS TONE CONTROL
FADER
4.4dB
FRONT BUFFER
REAR BUFFER
WINDOW DETECTOR
5.75 VOLTAGE REGULATOR
SERIAL DATA CONTROLLER FOR VOLUME & SWITCH
1 A GND
2 IN1-L
3 IN2-L
4 IN3-L
5 IN4-L
6 SW out-L
7 ZC in-L
8 LOUD-L
9 VR in-L
10 TREB-CNT-L
11 TREB-L-L
12 TREB-DIF-L
13 BASS-CNT-L
14 BASS-L-L
15 BASS-DIF-L
16 TONE out-L
17 FADER in-L
18 FRONT out-L
19 REAR out-L
20 Vref in
21 A GND
22 D GND
23 Ct
24 Vt in

M5282FP


10 VCC
9 VCA OUT
8 VC
7 VCA IN
6 NC
1 VCC/2
2 AMP +IN
3 AMP −IN
4 AMP OUT
5 GND

PA0059AM


VCC 1
LIM 2
LHPOUT 3
LHPIN 4
LOUT 5
LMETIN 6
LMET 7
SW 8
DOLBY 9
VREF 10
REF 11
VEE 12
24 RREF
23 RIM
22 RHPOUT
21 RHPIN
20 ROUT
19 RMETIN
18 RMET
17 C1
16 C2
15 C3
14 BPFIN
13 BPFOUT
VCA
VCA
CONT
DET
COMP
VCC
30k
30k
B.P.F

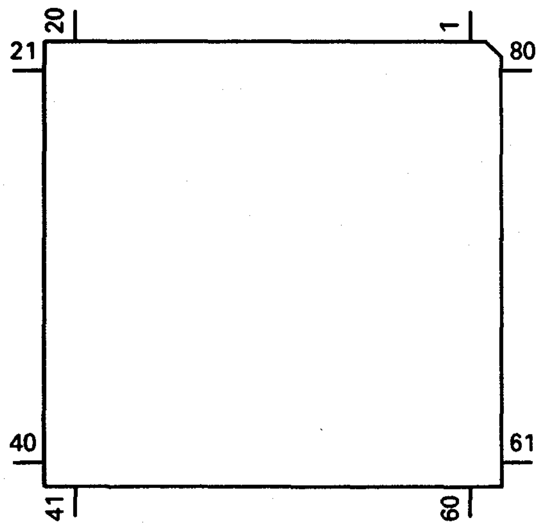
● Pin Functions(PDR019B)

Pin No.	Pin Name	I/O	I/O Format	Function and Operation
1	$\overline{\text{RIDRST}}$	O	C	RDS reset output
2	RIDSEL	O	C	RDS select output
3	NC			Open
4	AVSS			A/D converter GND
5	RIDRDY	I		RDS ready input
6	VCAVOL	O	C	VCAVOL analog output(D/A)
7	AVREF1	I		D/A converter reference voltage input
8	KYDT	I		Grille microcomputer communication data input
9	DPDT	O	C	Grille microcomputer communication data output
10	SWVDD	O	C	Grille microcomputer power supply output
11	RIDDI	I		RDS communication data input
12	RIDDO	O	C	RDS communication data output
13	$\overline{\text{RIDCK}}$	O	C	RDS communication clock output
14	MSIN	I		MS sense
15	$\overline{\text{MTLSW}}$	I		Metal switch sense
16	POS(TSI)	I		Position sense(Test P data input)
17	RES(TSO)	I		Reverse reel sense(Test P data output)
18	NES(TCK)	I		Normal reel sense(Test P clock output)
19	DIRO	O	C	Head N/R select output
20	PLAY	O	C	MS gain select output
21	DLBYBC	O	C	Dolby B/C NR select output
22	NR	O	C	Noise redaction output
23	SC2	O	C	Submotor control 2
24	SC1	O	C	Submotor control 1
25	CM	O	C	Capstan motor control
26	$\overline{\text{STBY}}$	O	C	Drive IC control
27	LOADSW	I		Loading switch sense
28	FLEX	O	C	Tune-up IC control
29	PDI	I		PLL data input
30	PCK	O	C	PLL clock output
31	PDO	O	C	PLL data output
32	PCE	O	C	PLL chip enable output
33	VSS			GND
34	MONO	O	C	Forced monaural output
35	$\overline{\text{AM}}$/FM	O	C	$\overline{\text{AM}}$/FM select output
36	NCB	O	NH	DYNAS filter select output
37	SUBW0	O	NH	Subwoofer control 0
38	SUBW1	O	NH	Subwoofer control 1
39	NC			Open
40	TUNPW	O	C	Tuner power output
41	ASENBO	O	C	Slave power supply control
42	$\overline{\text{BUSMUTE}}$	O	C	BUS mute output
43	$\overline{\text{TMUTE}}$	O	C	Tuner mute output
44	$\overline{\text{DMUTE}}$	O	C	Deck mute output
45	PEE	O	C	Beep tone output
46	$\overline{\text{MUTE}}$	O	C	mute output
47	SYSPW	O	C	System power control
48	ANTFIX	O	C	FM diversity select output
49	PCL	O	C	Output for clock adjustment
50	LCDPW	O	C	LCD backlight power supply output
51	DIM	O	C	DIMMER select output
52	ILMPW	O	C	Illumination power supply output
53	$\overline{\text{CSENS}}$	I		Flap close sense
54	$\overline{\text{ISENS}}$	I		Illumination sense
55	PRSBSW	I		$\overline{\text{PREOUT}}$/SUBWOOFER select input
56	TX	O	C	IP-BUS data output
57	RX	I		IP-BUS data input

Pin No.	Pin Name	I/O	I/O Format	Function and Operation
58	$\overline{\text{IPPW}}$	O	C	IP-BUS driver Power supply control
59	SD	I		SD input
60	$\overline{\text{RESET}}$	I		System reset input
61	TELIN	I		TEL mute input
62	$\overline{\text{BSENS}}$	I		Back up sense
63	$\overline{\text{ASENS}}$	I		ACC sense
64	$\overline{\text{DSENS}}$	I		Detach sense
65	VST	O	C	E.VOL strobe output
66	VDT	I		E.VOL data input
67	VCK	O	C	E.VOL clock output
68	VDD			Power supply
69	X2			Main system clock connection
70	X1			Main system clock connection
71	IC(VPP)			GND
72	XT2			
73	TESTIN	I		Test program input
74	AVDD			A/D converter analog power supply
75	AVREF0	I		A/D converter reference voltage input
76	SL	I		Signal level input(A/D)
77	SEL0	I		Input 0 for destination discrimination
78	SEL1	I		Input 1 for destination discrimination
79	LEVL	I		Audio Lch level input(A/D)
80	LEVR	I		Audio Rch level input(A/D)

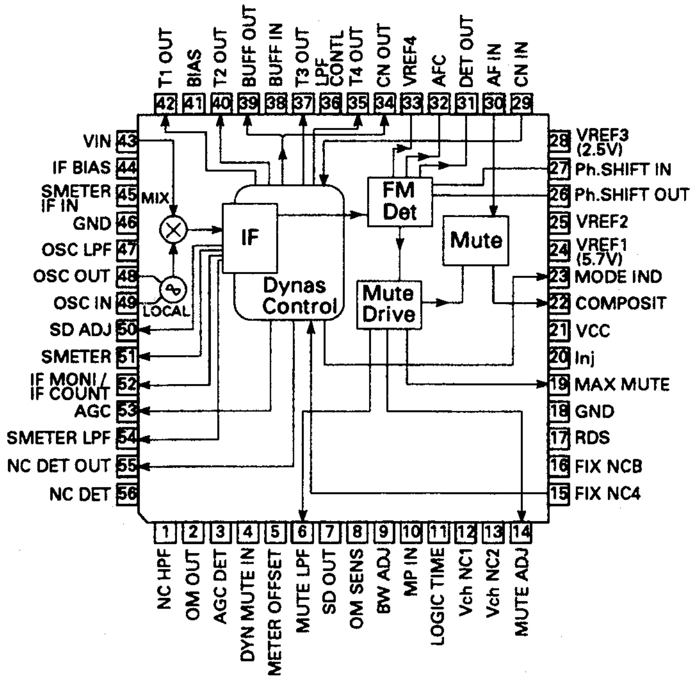
I/O Format	Meaning
C	C MOS
NH	High resistivity N channel open drain

***PDR019B**



IC's marked by are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

HA12186F


T1 OUT
BIAS
T2 OUT
BUFF OUT
BUFF IN
T3 OUT
LPF CONTL
T4 OUT
CN OUT
VREF4
AFC
DET OUT
AF IN
CN IN
42
41
40
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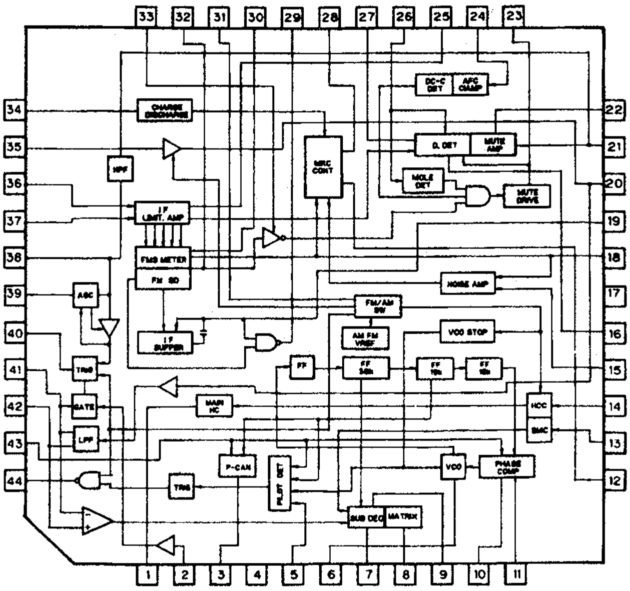
38
37
36
35
34
33
32
31
30
29
VIN 43
IF BIAS 44
SMETER IF IN 45
GND 46
OSC LPF 47
OSC OUT 48
OSC IN 49
SD ADJ 50
SMETER 51
IF MONI / IF COUNT 52
AGC 53
SMETER LPF 54
NC DET OUT 55
NC DET 56
MIX
LOCAL
IF
Dynas Control
FM Det
Mute
Mute Drive
28 VREF3 (2.5V)
27 Ph.SHIFT IN
26 Ph.SHIFT OUT
25 VREF2
24 VREF1 (5.7V)
23 MODE IND
22 COMPOSIT
21 VCC
20 Inj
19 MAX MUTE
18 GND
17 RDS
16 FIX NCB
15 FIX NC4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
NC HPF
OM OUT
AGC DET
DYN MUTE IN
METER OFFSET
MUTE LPF
SD OUT
OM SENS
BW ADJ
MP IN
LOGIC TIME
Vch NC1
Vch NC2
MUTE ADJ

LA1868M-PA


33
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12
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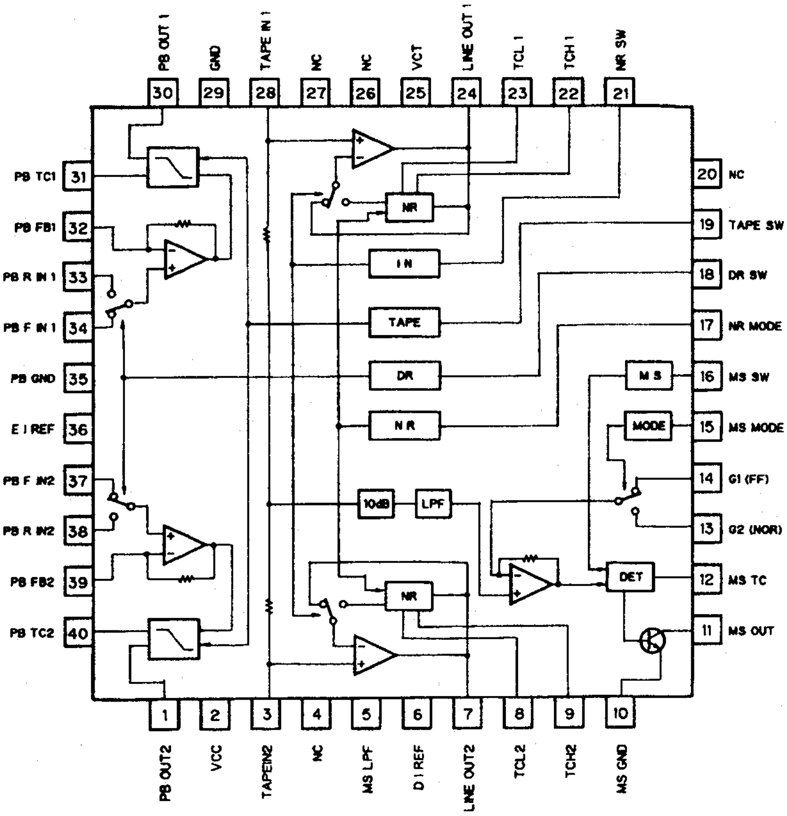
6
7
8
9
10
11
CHARGE DISCHARGE
HPF
I F LIMIT. AMP
FMS METER
FM SD
AGC
I F BUFFER
MRC CONT
DC-C DET
AFC CLAMP
Q. DET
MUTE AMP
MUTE DRIVE
NOISE AMP
FM/AM SW
AM FM VREF
VCO STOP
FF
FF 38k
FF 19k
FF 19k
TRIG
GATE
LPF
MAIN NC
HCC
SMC
P-CAN
PILOT DET
TRIG
VCO
PHASE COMP
SUB DEC
MATRIX

CXA1911Q


PB OUT 1
GND
TAPE IN 1
NC
NC
VCT
LINE OUT 1
TCL 1
TCH 1
NR SW
30
29
28
27
26
25
24
23
22
21
PB TC1 31
PB FB1 32
PB R IN 1 33
PB F IN 1 34
PB GND 35
E I REF 36
PB F IN2 37
PB R IN2 38
PB FB2 39
PB TC2 40
NR
I N
TAPE
DR
N R
M S
MODE
10dB
LPF
NR
DET
20 NC
19 TAPE SW
18 DR SW
17 NR MODE
16 MS SW
15 MS MODE
14 G1 (FF)
13 G2 (NOR)
12 MS TC
11 MS OUT
1
2
3
4
5
6
7
8
9
10
PB OUT2
VCC
TAPEIN2
NC
MS LPF
D I REF
LINE OUT2
TCL2
TCH2
MS GND

3. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

Unit Number : CWM4038
Unit Name : Tuner Amp Unit(KEH-P9200RDS/EW, X1BEW)

MISCELLANEOUS

Circuit Symbol & No.	Part Name	Part No.
IC 401		SN761025DL
IC 402 801 802		TC4066BF
IC 403		M5282FP
IC 404		NJM2068MD
IC 405		TC4052BF
IC 406		PA0059AM
IC 407		NJM2068MD
IC 408		TA2050S
IC 501		LC72140M
IC 551		PAL003A
IC 601		PDR019B
IC 602		PA0051AM
IC 603		S-80734ANDYI
IC 604		PA2024A
IC 605		PML001A
IC 701		PD6147A
IC 702		PMR001B
IC 703		NJM2903M
IC 704		SC14SU69F
IC 803 804 805 806		NJM4558MD
Q 401 402 805 806 807 808		2SC2712
Q 403 404		DTC143TK
Q 405 406 410 504 507 508 602 604 607 619		2SC2712
Q 407 408		DTC314TK
Q 409		DTC114TK
Q 411 610 707		2SA1162
Q 501		2SC3098
Q 502 605		2SC3295
Q 503 506		2SK208
Q 505 551 552 613 702		DTC124EK
Q 601		2SD1189
Q 603 612 617 701		2SA1162
Q 606		2SB1243
Q 608		2SC3295
Q 609 611		DTC114EK
Q 614		DTC124EK
Q 615		DTA114EK
Q 618		2SD1760F5
Q 620 703 704 705 706		2SC2712
Q 621 622		DTA124EK
Q 623 624 632		DTC144EK
Q 625 626 627 628		DTA124EK
Q 630		2SC2712
Q 633		DTC144EK
Q 708		DTC124EK
Q 801 802 803 804		2SC4213
Q 809 810 811 812		DTC314TK
Q 813 814 815 816		DTC314TK
D 401 505 506 614		MA151K-MH
D 402 601 604 613 627		MA153-MC
D 501		MA3027H
D 502		MA3027H
D 503		MA151WA-MN
D 504 612 615 617		MA151WK-MT
D 602 603 605 606 607		MA153-MC
D 608 620 621 622 626		ERA15-02VH
D 609		MA3062M
D 610		MA3047M
D 611 624		MA3082L
D 623		MA3056M
D 625		MA3075H
D 628		MA151K-MH
D 629		MA151WK-MT
D 701		MA3047M
D 801 802 803 804		MA8180M
L 501 601 602 603 604 605	Ferri-Inductor	LAU2R2K
L 502	Ferri-Inductor 100 μH	CTF-157
L 505	Inductor	LCTB4R7K2125
L 506	Coil	LCTBR10K2125
L 701 702	Ferri-Inductor	LAU101K
L 801 802 804	Inductor	LCTB2R2K2125
L 803	Inductor	LCTB2R2K2125
TC 601	Trimmer	CCG-070
X 501	Crystal Resonator 7.200MHz	CSS1030
X 601	Ceramic Resonator 6.291456MHz	CSS1303
X 701	Crystal Resonator 4.332MHz	CSS1056
S 602	Switch	CSG1020
S 603	Switch	HSH-156
IL 601	Lamp 40mA/14V	CEL1263
VR 701	Volume 2.2kΩ (B)	VRMB6VS222
FU 601	IC Protector 0.4A	ICP-N10
	Tuner Unit	CWE1356
EF 601	EMI Filter	CCG1006
BZ 601	Buzzer	CPV1011

RESISTORS

Circuit Symbol & No.	Part Name	Part No.
R 401 402		RS1/16S753J
R 403 404		RS1/16S362J
R 405 406 415 416		RS1/16S272J
R 409 410 445 446		RS1/16S512J
R 417 418		RS1/16S151J
R 419 420		RS1/16S101J
R 427 428		RS1/16S474J
R 429 430 463 465 466 467 491 629 706 726		RS1/16S104J
R 431 432 817 818 819		RS1/16S154J
R 433 434 503		RS1/16S821J

=====Circuit Symbol & No. Part Name=====	Part No.
R 435 436 437 438 453 454 476 508 618 620	RS1/16S223J
R 439 440 502 709	RS1/16S332J
R 441	RS1/16S751J
R 442	RS1/16S751J
R 443 444 455 456 514 515 520 521 522 523	RS1/16S102J
R 447 448	RS1/16S122J
R 449 450	RS1/16S392J
R 451 452	RS1/16S181J
R 457 458	RS1/16S911J
R 459 460 702	RS1/16S392J
R 461	RS1/16S220J
R 462	RS1/16S334J
R 464	RS1/16S564J
R 468 469 470 489 490 615 616	RS1/16S104J
R 471	RS1/16S105J
R 472 473 718	RS1/16S103J
R 474 517 536 540 543 608 614 619 624 625	RS1/16S472J
R 475	RS1/16S563J
R 477	RA3C472J
R 480	RS1/16S103J
R 481 482 510 518 551 553 554 633 634 657	RS1/16S103J
R 483 484 705 825 826 827 828	RS1/16S224J
R 485 486 545	RS1/16S273J
R 492	RS1/16S473J
R 501 658 659 668	RS1/16S101J
R 504 721	RS1/16S331J
R 505	RS1/16S330J
R 506	RS1/16S680J
R 507 512 632 743	RS1/16S222J
R 509	RS1/16S221J
R 511 527 528 617 622 623 653 744	RS1/16S222J
R 516	RS1/16S152J
R 524 525 542 610 612 613 649 650 688 704	RS1/16S102J
R 529 530 541 605 607 651 652 670 671	RS1/16S473J
R 531 538 539 637 665 680	RS1/16S473J
R 532 642	RA4C222J
R 537	RS1/16S222J
R 546	RS1/16S183J
R 547 548 606	RS1/16S683J
R 549 550	RS1/16S912J
R 552 722	RS1/16S331J
R 555 646 679	RS1/16S0R0J
R 557	RS1/16S0R0J
R 602	RS1/16S473J
R 603	RS1/16S473J
R 611	RS1/16S124J
R 626 627 630 635 681 682 854	RS1/16S472J
R 631	RS1/2S681J
R 636	RS1/16S473J
R 638	RS1/4S681J
R 639	RS2P6R8JL
R 640 641	RA3C473J
R 643 644	RA3C222J
R 645 733	RA4C681J
R 647	RS1/16S102J
R 648 664	RS1/16S102J
R 656	RS1/16S182J
R 660	RS1/16S620J
R 661	RS1/16S183J
R 662 663 669 677 829 830 831 832 833	RS1/16S472J
R 667 678 719	RS1/16S103J
R 672 674 720 723 724	RS1/16S223J
R 673 675 687 725 727 732 739 740 782 783	RS1/16S473J
R 684 685	RS1/16S103J
R 686	RS1/16S473J

=====Circuit Symbol & No. Part Name=====	Part No.
R 689	RS1/16S224J
R 690	RS1/16S204J
R 692	RS1/16S362J
R 693	RS1/16S222J
R 701 805 806 807 808 813 814 815 816	RS1/16S223J
R 703	RS1/4S620J
R 707 716 728 741 742	RS1/16S102J
R 708	RS1/16S152J
R 710 713	RA3C102J
R 717	RS1/16S683J
R 729	RS1/16S683J
R 730	RS1/16S222J
R 731	RS1/16S105J
R 737 738	RS1/16S681J
R 784 785	RS1/16S473J
R 788	RS1/16S473J
R 820	RS1/16S154J
R 821 822	RS1/16S114J
R 823 824	RS1/16S114J
R 834 835 836 853	RS1/16S472J
R 841 842 843 844	RS1/16S334J
R 845 847	RS1/16S271J
R 846 848	RS1/16S271J
R 855	RS1/10S220J
R 859 860 861 862	RS1/16S104J
R 864	RS1/16S222J
CAPACITORS	
C 401 402 403 404 411 412 447 448 449 450	CEA010M50LL
C 405 406 445 469 477 480 483 561 623	CKSQYB104K16
C 407 408 413 414 429 430 458	CEA100M10NPLL
C 409 410 465	CKSQYB822K50
C 415 416	CKSQYB152K50
C 417 418	CKSQYB183K25
C 419 420 616 817 818 819 820	CKSQYB102K50
C 421 422 529 530	CEA2R2M35NPLL
C 423 424	CKSQYB333K50
C 425 426 503 524 525 601 605 611 612	CCSQCH101J50
C 427 428 453 454 457 475 476 481	CEA100M16LL
C 431 432 437 438 473 515 602 831 832 833	CEA4R7M35LL
C 433 434 502 505 507 512 513 521 522 526	CKSQYB103K25
C 435 436	CEA4R7M16NPLL
C 439 440	CKSQYB222K50
C 441 442 482 606 720 821 822 823 824	CEA2R2M50LL
C 443 444 609 622 706	CKSQYB102K50
C 446 493 494	CKSQYB104K16
C 451 452	CEA100M10NPLL
C 455 456	CCSQCH080D50
C 459	CCSQCH220J50
C 460	CKSQYB273K50
C 461 625	CKSQYB473K50
C 462 464 520 704 708 719	CKSQYB223K50
C 463	CKSQYB153K50
C 466	CEA220M10LL
C 467	CSZA100M16
C 468 472 478 510 619 825	CEA101M10LL
C 470 479 628	CEA470M10LL
C 471 559 564 621	CEA010M50LL
C 474	CEA010M50NPLL
C 484	CKSQYB103K25
C 485	CEA3R3M50LL
C 495	CKSQYB224K16
C 501	CKSQYB681K50
C 504 632 809 810 811 812	CCSQCH101J50
C 506 4.7 μF/16V	CCH1005
C 508 607 608	CEAR47M50LL
C 509 0.047 μF/16V	CCG1008
C 511	CFTNA474J50

=====Circuit Symbol & No.	Part Name=====	Part No.
C 514 615		CKSQYB102K50
C 516 517		CCSQCH270J50
C 518		CKSQYB102K50
C 523 565		CKSQYB104K16
C 527		CKSYF224Z25
C 528		CKSQYB183K25
C 531 641 726		CKSQYB102K50
C 551 552 553 554		CEAR22M50NPLL
C 560		CEA220M16LL
C 562		CEHAQ472M16
C 563		CEA330M10LL
C 603		CCSQCH330J50
C 604		CCSQCH120J50
C 610 713 716 718		CEA100M16LL
C 613		CKSQYB103K25
C 614		CEAS471M10
C 617	330 µF/10V	CCH1181
C 618 620		CEAS470M10
C 626		CEHAQ102M16
C 627 805 807		CKSQYB103K25
C 631 633 634 635		CCSQCH101J50
C 636		CKSYF105Z16
C 642 643 644		CKSQYB102K50
C 647		CEA100M16LL
C 701 702 703 707 723 724 806 808 1001		CKSQYB103K25
C 705 712		CKSQYB472K50
C 709		CSZSR3R3M16
C 710 711		CSZS010M16
C 714		CKSQYB223K50
C 715		CKSQYB393K50
C 717		CKSQYB682K50
C 721 722		CCSQCH180J50
C 801 802 803 804		CEA2R2M50LL
C 813 814 815 816 828 829 830		CEA4R7M35LL
C 827		CEA4R7M35LL
C 834		CEA4R7M35LL

Key Board Unit
Consists of
- Key Board P.C.Board
- Switch P.C.Board

Unit Number : CWM4046
Unit Name : Key Board Unit
(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)

MISCELLANEOUS

IC 901		PD5273A
IC 902		HD61602RH
IC 905	HIC Module	RS-30
Q 903		2SC2712
D 901 902		MA153-MC
D 903	LED	CL170FGCD
D 904 905 906 907 908	LED	CL170FGCD
D 909 910 911 912 913	LED	CL170FGCD
D 914 915 916 917 918	LED	CL170FGCD
D 919 920 921 922 923	LED	CL170FGCD
D 924	LED	CL170FGCD
D 926		MA151K-MH
L 901	Inductor	LCTA4R7K4532
L 902 903	Inductor	LCTB2R2K2125
X 901	Ceramic Resonator 4.9152MHz	CSS1084
S 901 906 907 912	Switch	CSG1043
S 902 903 904 905	Switch	CSG1041
S 908 909 910 911	Switch	CSG1041
S 913 918 920 921	Switch	CSG1043
S 914 915 916 917	Switch	CSG1041

=====Circuit Symbol & No.	Part Name=====	Part No.
S 919	Switch	CSG1043
S 930	Switch	CSN1027
	EL	CEL1424
LCD901	LCD	CAW1261

RESISTORS

R 901 902		RS1/2S222J
R 904		RS1/16S121J
R 905		RS1/8S151J
R 906 907 908 909 910 911 912 913 914 915		RS1/16S470J
R 920 923 935 936 955		RS1/16S473J
R 921 922 924 925 926 929 930 931		RS1/16S472J
R 933 957		RS1/16S102J
R 934		RA3C102J
R 938 942		RA4C102J
R 939		RS1/16S103J
R 946 947 952		RS1/4S391J
R 948 949 950 951		RS1/4S391J
R 958		RS1/16S2R2J

CAPACITORS

C 901 902		CSZSR100M6R3
C 914 921		CKSQYB104K16
C 915 916 917 919 920		CKSQYB473K16
C 922		CKSQYB273K50

Unit Number : CWM4219
Unit Name : Inverter Unit

MISCELLANEOUS

Q 640		2SD1864
L 606	Transformer	CTT1038

RESISTORS

R 609		RS1/10S512J
R 621		RS1/10S241J

CAPACITORS

C 629		CKSQYB473K16
C 630		CEA100M16LL

Unit Number : CWE1356
Unit Name : Tuner Unit(KEH-P9200RDS/EW, X1BEW)

MISCELLANEOUS

IC 1		PA2021B
IC 51		HA12186F
IC 52		LA1868M-PA
Q 1		3SK195
Q 2 73		2SC4099
Q 3 5 6 10 11 51 87 210		DTC124EU
Q 20		DTC143TU
Q 41 86 152		2SC4116
Q 71		2SC4099
Q 72		HN3C01F
Q 83		2SA1586
Q 84 153 173		DTC124EU
Q 85 154		2SC4116
Q 141		IMX1
Q 142		DTA114TU
Q 171		IMX1
Q 172		IMD1
Q 201		FC12(12G)
D 1		1SV248
D 2 3 4		KV1410-F1

=====Circuit Symbol & No.	Part Name=====	Part No.
D 6 202		MA157-MR
D 31		1SV249
D 81 84		HVR320
D 82 83		HVR320
D 86 171		MA110-1A
D 151		DTZ3R6A
D 152		DTZ3R0A
D 201		MA110-1A
D 203		SVC203CP
L 1	Inductor	LCTBR12K2125
L 2 51 52	Inductor	LCTA150K3225
L 4	Coil	CTC1068
L 71 72	Inductor	LCTB3R9K2125
L 201	Inductor	CTF1197
L 202	Coil	CTB1105
L 204	Inductor	LCTB101K2125
L 205	Inductor	LCTA330K3225
L 206	Inductor	CTF1198
T 1	Coil	CTC1099
T 2	Coil	CTE1064
T 3	Coil	CTC1130
T 51	Coil	CTE1067
T 52	Coil	CTE1068
T 71	Coil	CTE1058
T 81	Coil	CTE1093
T 82	Coil	CTE1097
T 83 84	Coil	CTE1098
T 85	Coil	CTE1094
T 202	Coil	CTB1104
T 203	Coil	CTE1106
T 204	Coil	CTE1107
T 205	Coil	CTE1110
TC 1	Trimmer	CCL1019
TH 71 Thermistor	DTN-T202V221KS	GGC1072
CF 1 51 52	Filter	CTF1057
CF 201	Filter	CTF1027
CF 202	Ceramic Filter	CTF1321
X 81	Radiator	CSS1340
X 151	Radiator	CSS1314
X 201	Radiator	CSS1339
VR 51 81 152	Semi-fixed 47kΩ (B)	CCP1185
VR 52	Semi-fixed 22kΩ (B)	CCP1183
VR 71	Semi-fixed 2.2kΩ (B)	CCP1177
AR 1		DSP-141N

RESISTORS

=====Circuit Symbol & No.	Part Name=====	Part No.
R 1 3 10 113 114 131 133 171 172		RS1/16S223J
R 2		RS1/16S271J
R 5 144		RS1/16S153J
R 6		RS1/16S820J
R 7 13		RS1/16S563J
R 9 59 66		RS1/16S473J
R 11		RS1/16S474J
R 14 15 18 217		RS1/16S563J
R 21		RS1/16S221J
R 22		RS1/16S560J
R 25 83 126		RS1/16S273J
R 26 88		RS1/16S152J
R 27 123 141 149 173 174 177		RS1/16S223J
R 30 93 168		RS1/16S183J
R 31		RS1/16S181J
R 41 42 75 137 138 156 165 216		RS1/16S103J
R 43 74 89		RS1/16S153J
R 44 159		RS1/16S0R0J
R 45 76 79		RS1/16S331J
R 48		RS1/16S473J

=====Circuit Symbol & No.	Part Name=====	Part No.
R 50		RS1/16S121J
R 54 209 222		RS1/16S822J
R 55 81		RS1/16S681J
R 56 57 140 201		RS1/16S822J
R 58		RS1/16S243J
R 61 166 179 214		RS1/16S333J
R 63		RS1/16S334J
R 67		RS1/16S123J
R 68		RS1/16S681J
R 69		RS1/16S331J
R 70		RS1/16S0R0J
R 71		RS1/16S471J
R 72 77 80 97 101 213		RS1/16S222J
R 73		RS1/16S151J
R 78 241		RS1/16S471J
R 82 90 122 154		RS1/16S103J
R 84 85		RS1/16S393J
R 86 87		RS1/16S470J
R 91		RS1/16S512J
R 92		RS1/16S152J
R 94		RS1/16S183J
R 96		RS1/16S183J
R 98 139		RS1/16S123J
R 100		RS1/16S182J
R 102		RS1/16S564J
R 103 155		RS1/16S104J
R 104 132 136		RS1/16S472J
R 121 142 143		RS1/16S102J
R 124		RS1/16S472J
R 125		RS1/16S182J
R 127 128		RS1/16S124J
R 129 146 147		RS1/16S683J
R 134		RS1/16S682J
R 135		RS1/16S272J
R 145		RS1/16S562J
R 153 245		RS1/16S562J
R 157 176		RS1/16S104J
R 158		RS1/16S333J
R 160		RS1/16S105J
R 164		RS1/16S392J
R 167 230		RS1/16S333J
R 175		RS1/16S472J
R 178		RS1/16S334J
R 203		RS1/16S102J
R 205		RS1/16S823J
R 207		RS1/16S225J
R 215		RS1/16S150J
R 220		RS1/16S100J
R 221		RS1/16S273J
R 242		RS1/16S122J

CAPACITORS

=====Circuit Symbol & No.	Part Name=====	Part No.
C 1 2		CCSRCH220J50
C 3 31 53 72 210 248		CKSRYF473Z25
C 5		CCSRCH270J50
C 7		CCSRCH030C50
C 8 32 55 241 242		CKSRYB222K50
C 9		CCSRCH470J50
C 10		CCSRSH080D50
C 11 14 19 20 21 22 41 43 51 61		CKSRYB103K50
C 12 13		CCSRCH050D50
C 15 91		CKSRYF104Z25
C 16		CCSRCH050D50
C 17		CCSRRH100D50
C 18		CCSRRH080D50
C 23		CEV010M50
C 24 81 163 213		CKSRYB223K25

=====Circuit Symbol & No.	Part Name=====	Part No.
C 25 104		CKSRYB682K50
C 28		CEV330M10
C 29 65 66 67 68 69 87 96 99 101		CKSRYB103K50
C 33 34 216		CCSRCH100D50
C 54		CCSRCH101J50
C 56		CCSRPH910J50
C 57		CCSRPH470J50
C 58		CKSYB274K16
C 60		CCSRCH560J50
C 62 129 172		CCSRCH101J50
C 63		CCSRCH020D50
C 70 105 132 140 155 156 174 201 203 207		CKSRYB103K50
C 82 98 146 159		CKSQYB104K16
C 83		CCSRCH150J50
C 84		CCSRCH070D50
C 85		CKSYB105K16
C 86		CCSRCH100D50
C 88 100		CKSRYB472K50
C 89 92		CCSRRH121J50
C 90		CKSRYB333K16
C 93		CKSRYB333K16
C 95 109 144 233		CKSRYB332K50
C 97 121		CCSRRH560J50
C 102		CKSYB474K16
C 103		CKSRYB102K50
C 108		CEVNP100M10
C 110		CCSRCH331J50
C 113		CKSRYB223K25
C 122		CKSQYB683K16
C 123 125 157 212 231 234		CEV100M16
C 124 143		CKSYB105K16
C 126 147		CKSRYB332K50
C 127 131		CCSRCH391J50
C 130 136 145 173 175 215 235		CKSRYB103K50
C 133		CEV100M16
C 134		CKSRYF104Z25
C 137		CKSRYB152K50
C 141 208		CEV470M16
C 142		CEV2R2M50
C 151 152		CKSRYB183K25
C 153		CKSQYB104K16
C 154 158 211		CKSYB105K16
C 160		CKSYB473K50
C 161		CKSRYB471K50
C 165		CEV2R2M50
C 171		CKSRYB681K50
C 176		CKSRYF473Z25
C 177		CKSRYB102K50
C 180		CKSRYB223K25
C 204		CCSRTH101J50
C 206		CCSRTH820J50
C 209 220 223 225 227 228		CKSRYB103K50
C 214		CKSRYB153K25
C 218		CEV4R7M35
C 219		CKSQYB473K25
C 221		CCSRCH330J50
C 222		CCSRCH270J50
C 226		CEV4R7M35
C 229		CKSYB684K16
C 230		CKSRYB472K50
C 232		CCSRCH390J50

Unit Number : CWE1357
Unit Name : Tuner Unit(KEH-P8200RDS/EW, X1BEW, KEX-P820RDS/EW)

MISCELLANEOUS

=====Circuit Symbol & No.	Part Name=====	Part No.
IC 1		PA2021B
IC 52		LA1868M-PA
Q 1		3SK195
Q 2 73		2SC4099
Q 3 5 6 10 11 51 210		DTC124EU
Q 20		DTC143TU
Q 41 152		2SC4116
Q 71		2SC4099
Q 72		HN3C01F
Q 153		DTC124EU
Q 154		2SC4116
Q 201		FC12(12G)
D 1		1SV248
D 2 3 4		KV1410-F1
D 6 202		MA157-MR
D 31		1SV249
D 151		DTZ3R6A
D 152		DTZ3R0A
D 201		MA110-1A
D 203		SVC203CP
L 1	Inductor	LCTBR12K2125
L 2 51 52	Inductor	LCTA150K3225
L 4	Coil	CTC1068
L 71 72	Inductor	LCTB3R9K2125
L 201	Inductor	CTF1197
L 202	Coil	CTB1105
L 204	Inductor	LCTB101K2125
L 205	Inductor	LCTA330K3225
L 206	Inductor	CTF1198
T 1	Coil	CTC1099
T 2	Coil	CTE1064
T 3	Coil	CTC1130
T 51	Coil	CTE1067
T 52	Coil	CTE1068
T 71	Coil	CTE1058
T 202	Coil	CTB1104
T 203	Coil	CTE1106
T 204	Coil	CTE1107
T 205	Coil	CTE1110
TC 1	Trimmer	CCL1019
TH 71	Thermistor DTN-T202V221KS	GGC1072
CF 1 51 52	Filter	CTF1057
CF 201	Filter	CTF1027
CF 202	Ceramic Filter	CTF1321
X 151		CSS1314
X 201		CSS1339
VR 51 152 156	Semi-fixed 47kΩ (B)	CCP1185
VR 52	Semi-fixed 22Ω (B)	CCP1183
AR 1		DSP-141N

RESISTORS

=====Circuit Symbol & No.	Part Name=====	Part No.
R 1 3 10 113 114		RS1/16S223J
R 2		RS1/16S271J
R 5		RS1/16S153J
R 6		RS1/16S820J
R 7 13		RS1/16S563J
R 9 59 66		RS1/16S473J
R 11		RS1/16S474J
R 14 15 18 217		RS1/16S563J
R 21		RS1/16S221J
R 22		RS1/16S560J

=====Circuit Symbol & No. Part Name=====	Part No.
R 25	RS1/16S273J
R 26	RS1/16S152J
R 27	RS1/16S223J
R 30 168	RS1/16S183J
R 31	RS1/16S181J
R 41 42 75 156 165 216	RS1/16S103J
R 43 74	RS1/16S153J
R 44	RS1/16S0R0J
R 45 76 79	RS1/16S331J
R 48	RS1/16S473J
R 50	RS1/16S121J
R 54 209 222	RS1/16S822J
R 55	RS1/16S331J
R 56 57 201	RS1/16S822J
R 58	RS1/16S243J
R 61 166 214	RS1/16S333J
R 63	RS1/16S334J
R 67	RS1/16S123J
R 68	RS1/16S681J
R 69	RS1/16S331J
R 70	RS1/16S0R0J
R 71	RS1/16S471J
R 72 77 80 101 213	RS1/16S222J
R 73	RS1/16S152J
R 78	RS1/16S391J
R 102	RS1/16S564J
R 103 155	RS1/16S104J
R 104	RS1/16S472J
R 112	RS1/16S102J
R 153 245	RS1/16S562J
R 154	RS1/16S103J
R 157	RS1/16S104J
R 158	RS1/16S333J
R 159 161	RS1/16S103J
R 160	RS1/16S105J
R 164	RS1/16S183J
R 167 230	RS1/16S333J
R 169	RS1/16S0R0J
R 203	RS1/16S102J
R 205	RS1/16S823J
R 207	RS1/16S225J
R 215	RS1/16S150J
R 220	RS1/16S100J
R 221	RS1/16S273J
R 241	RS1/16S471J
R 242	RS1/16S122J

CAPACITORS

=====Circuit Symbol & No. Part Name=====	Part No.
C 1 2	CCSRCH220J50
C 3 31 53 72 210 248	CKSRYF473Z25
C 5	CCSRCH270J50
C 7	CCSRCH030C50
C 8 32 241 242	CKSRYB222K50
C 9	CCSRCH470J50
C 10	CCSRSH080D50
C 11 14 19 20 21 22 41 43 51 61	CKSRYB103K50
C 12 13	CCSRCH050D50
C 15	CKSRYF104Z25
C 16	CCSRCH050D50
C 17	CCSRRH100D50
C 18	CCSRRH080D50
C 23	CEV010M50
C 24 163 213	CKSRYB223K25
C 25 104	CKSRYB682K50
C 28	CEV330M10
C 29 65 67 68 69 101	CKSRYB103K50
C 33 34 216	CCSRCH100D50
C 54	CCSRCH101J50
C 56	CCSRPH910J50
C 57	CCSRPH470J50
C 58	CKSYB394K16
C 60	CCSRCH560J50
C 62	CCSRCH101J50
C 63	CCSRCH020D50
C 70 105 155 156 201 203 207	CKSRYB103K50
C 71	CKSYRB103K50
C 102	CKSYB474K16
C 103	CKSRYB102K50
C 108	CEVNP100M10
C 109 233	CKSRYB332K50
C 110	CKSRYB332K50
C 113	CKSRYB223K25
C 157 212 231 234	CEV100M16
C 151 152	CKSRYB183K25
C 153	CKSQYB104K16
C 154 158 211	CKSYB105K16
C 159	CKSQYB104K16
C 160	CKSYB473K50
C 161	CKSRYB471K50
C 162	CEV010M50
C 165	CEV2R2M50
C 204	CCSRTH101J50
C 206	CCSRTH820J50
C 208	CEV470M16
C 209 220 223 225 227 228	CKSRYB103K50
C 214	CKSRYB153K25
C 215 235	CKSRYB103K50
C 218	CEV4R7M35
C 219	CKSQYB473K16
C 221	CCSRCH330J50
C 222	CCSRCH270J50
C 226	CEV4R7M35
C 229	CKSYB684K16
C 230	CKSRYB472K50
C 232	CCSRCH390J50

Unit Number : CWM3953
Unit Name : Deck Unit
(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)

MISCELLANEOUS

IC 251		CXA1911Q
IC 351		PA2020A
Q 351		2SB1260
Q 352		2SC4102
D 351		MA141K-MH
VR 301 302	Semi-fixed 22kΩ (B)	CCP1129

RESISTORS

R 255 256	RS1/16S181J
R 271	RS1/16S183J
R 272	RS1/16S203J
R 273 274 275 276 321 322 351 352 353 354	RS1/16S102J
R 277 281 282 283 284 373 374 375	RS1/8S0R0J
R 278 301 302 371 404	RS1/16S0R0J
R 355	RS1/10S274J
R 356	RS1/10S202J
R 357	RS1/10S472J
R 358 359	RS1/10S103J
R 360	RS1/10S102J
R 361	RS1/10S622J
R 372	RS1/10S0R0J
R 401	RS1/16S821J
R 402	RS1/16S392J
R 403	RS1/16S105J

=====Circuit Symbol & No.	Part Name=====	Part No.
CAPACITORS		
C 251 252 253 254		CKSRYB391K50
C 255 256		CKSRYB103K50
C 257 258		CEV470M6R3
C 271 307 308		CKSQYB104K16
C 272 301 302		CEV100M16
C 303 304		CEV010M50
C 305 306		CKSQYB683K16
C 322		CEV100M16
C 351		CKSYB224K25
C 352		CKSQYB392K50
C 353 356		CKSQYB103K50
C 354		CKSQYB473K50
C 355		CKSYB104K50
C 401		CCSRCH151J50
C 402		CKSYB684K16
C 403		CKSYB333K25
C 404		CKSRYB333K16

Unit Number : CWM3954
Unit Name : Deck Unit(KEX-P820RDS/EW)

MISCELLANEOUS		
IC 251		CXA1911Q
IC 351		PA2020A
Q 351		2SB1260
Q 352		2SC4102
D 351		MA141K-MH
VR 301 302	Semi-fixed 22kΩ(B)	CCP1129
RESISTORS		
R 251 252 253 254		RS1/16S243J
R 255 256		RS1/16S181J
R 271		RS1/16S183J
R 272		RS1/16S203J
R 273 274 275 276 321 322 351 352 353 354		RS1/16S102J
R 277 281 282 283 284 373 374 375		RS1/8S0R0J
R 278 301 302 371 404		RS1/16S0R0J
R 355		RS1/10S274J
R 356		RS1/10S202J
R 357		RS1/10S472J
R 358 359		RS1/10S103J
R 360		RS1/10S102J
R 361		RS1/10S622J
R 372		RS1/10S0R0J
R 401		RS1/16S821J
R 402		RS1/16S392J
R 403		RS1/16S105J
CAPACITORS		
C 251 252 253 254		CCSRCH331J50
C 255 256		CKSRYB103K50
C 257 258		CEV470M6R3
C 271 307 308		CKSQYB104K16
C 272 301 302		CEV100M16
C 303 304		CEV010M50
C 305 306		CKSQYB683K16
C 322		CEV100M16
C 351		CKSYB224K25
C 352		CKSQYB392K50
C 353 356		CKSQYB103K50
C 354		CKSQYB473K50
C 355		CKSYB104K50
C 401		CCSRCH151J50
C 402		CKSYB684K16

=====Circuit Symbol & No.	Part Name=====	Part No.
C 403		CKSYB333K25
C 404		CKSRYB333K16

Unit Number :
Unit Name : P.C.Board Unit

S 1 2	Switch (70 μS,Load)	ESG1004
EGN 1	Photo-Interrupter	EGN1005
R 1		RD1/4HM181J

Unit Number :
Unit Name : Reel P.C.Board

EGN 2 3	Photo-Reflector	EGN1004

Miscellaneous Parts List

M 1	Motor Unit (Main)	EXA1381
M 2	Motor Unit (Sub)	EXA1382
HD 1	Head Assy	EXA1404
(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)		
HD 1	Head Assy	EXA1398
(KEX-P820RDS/EW)		

- The KEH-P8200RDS/EW, X1BEW and KEX-P820RDS/EW Parts Lists enumerate the parts which differ from those enumerated in the KEH-P9200RDS/EW, X1BEW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-P9200RDS/EW, X1BEW Parts List is given on page 16.

Tuner Amp Unit

		KEH-P9200RDS/EW, X1BEW	KEH-P8200RDS/EW, X1BEW
Circuit Symbol & No.	Part Name	Part No.	Part No.
IC402,801,802		TC4066BF	•••••
IC803,804,805,806		NJM4558MD	•••••
Q622		DTA124EK	•••••
Q623,624,632		DTC144EK	•••••
Q625,626,627		DTA124EK	•••••
Q633		DTC144EK	•••••
Q801,802,803,804		2SC4213	•••••
Q805,806,807,808		2SC2712	•••••
Q813,814,815,816		DTC314TK	•••••
D627		MA153-MC	•••••
D629		MA151WK-MT	•••••
D801,802,803,804		MA8180M	•••••
L801,802,804	Inductor	LCTB2R2K2125	•••••
L803	Inductor	LCTB2R2K2125	•••••
S603	Switch	HSH-156	•••••
	Tuner Unit	CWE1356	CWE1357
R421,422,424,851,856,857,858		•••••	RS1/16S0R0J
R423,852		•••••	RS1/16S0R0J
R603		RS1/16S473J	•••••
R604		•••••	RS1/16S473J
R677,829,830,831,832,833,834,835,836,853		RS1/16S472J	•••••
R681,682,854		RS1/16S472J	•••••
R691		•••••	RS1/16S473J
R692		RS1/16S362J	•••••
R693		RS1/16S222J	RS1/16S0R0J
R694		•••••	RS1/16S0R0J
R789		•••••	RS1/16S0R0J
R801,802,803,804,837,838,839,840,849,850		•••••	RS1/16S0R0J
R805,806,807,808,813,814,815,816		RS1/16S223J	•••••
R817,818,819		RS1/16S154J	•••••
R820		RS1/16S154J	•••••
R821,822		RS1/16S114J	•••••
R823,824		RS1/16S114J	•••••
R825,826,827,828		RS1/16S224J	•••••
R841,842,843,844		RS1/16S334J	RS1/16S223J
R845,847		RS1/16S271J	RS1/16S821J
R846,848		RS1/16S271J	RS1/16S821J
R855		RS1/10S220J	•••••
R859,860,861,862		RS1/16S104J	•••••
R863		•••••	RS1/16S0R0J
R864		RS1/16S222J	•••••
C635		CCSQCH101J50	•••••
C647		CEA100M16LL	•••••
C801,802,803,804		CEA2R2M50LL	•••••
C805,807		CKSQYB103K25	•••••

		KEH-P9200RDS/EW, X1BEW	KEH-P8200RDS/EW, X1BEW
Circuit Symbol & No.	Part Name	Part No.	Part No.
C806,808		CKSQYB103K25	•••••
C809,810,811,812		CCSQCH101J50	•••••
C813,814,815,816,827,828		CEA4R7M35LL	•••••
C825		CEA101M10LL	•••••
C829,830,831,832,833,834		CEA4R7M35LL	•••••

Tuner Amp Unit

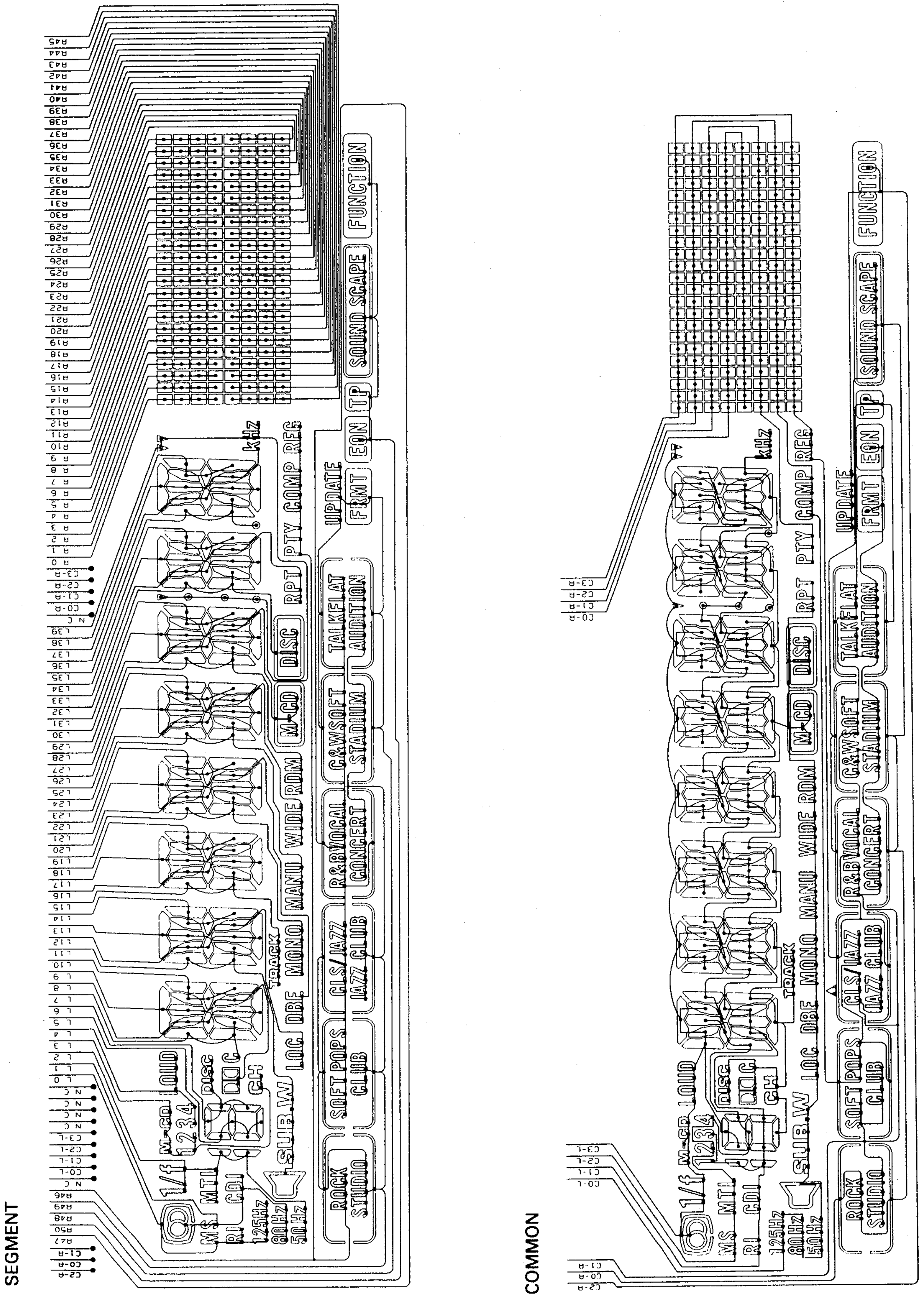
		KEH-P9200RDS/EW, X1BEW	KEX-P820RDS/EW
Circuit Symbol & No.	Part Name	Part No.	Part No.
IC402,801,802		TC4066BF	•••••
IC551		PAL003A	•••••
IC803,804,805,806		NJM4558MD	•••••
Q551,552		DTC124EK	•••••
Q622		DTA124EK	•••••
Q623,624,632		DTC144EK	•••••
Q625,626,627		DTA124EK	•••••
Q633		DTC144EK	•••••
Q801,802,803,804		2SC4213	•••••
Q805,806,807,808		2SC2712	•••••
Q813,814,815,816		DTC314TK	•••••
D626		ERA15-02VH	•••••
D627		MA153-MC	•••••
D629		MA151WK-MT	•••••
D801,802,803,804		MA8180M	•••••
L801,802,804	Inductor	LCTB2R2K2125	•••••
L803	Inductor	LCTB2R2K2125	•••••
S603	Switch	HSH-156	•••••
	Tuner Unit	CWE1356	CWE1357
R421,422,424,851,856,857,858		•••••	RS1/16S0R0J
R423,852		•••••	RS1/16S0R0J
R551,553,554		RS1/16S103J	•••••
R552		RS1/16S331J	•••••
R603		RS1/16S473J	•••••
R604		•••••	RS1/16S473J
R656		RS1/16S182J	RS1/16S472J
R677,829,830,831,832,833,834,835,836,853		RS1/16S472J	•••••
R681,682,854		RS1/16S472J	•••••
R691		•••••	RS1/16S473J
R692		RS1/16S362J	•••••
R693		RS1/16S222J	RS1/16S0R0J
R694		•••••	RS1/16S0R0J
R789		•••••	RS1/16S0R0J
R801,802,803,804,837,838,839,840,849,850		•••••	RS1/16S0R0J
R805,806,807,808,813,814,815,816		RS1/16S223J	•••••
R817,818,819		RS1/16S154J	•••••
R820		RS1/16S154J	•••••
R821,822		RS1/16S114J	•••••
R823,824		RS1/16S114J	•••••
R825,826,827,828		RS1/16S224J	•••••

Circuit Symbol & No.	Part Name	KEH-P9200RDS/EW, X1BEW Part No.	KEX-P820RDS/EW Part No.
R841,842,843,844		RS1/16S334J	RS1/16S223J
R845,847		RS1/16S271J	RS1/16S821J
R846,848		RS1/16S271J	RS1/16S821J
R855		RS1/10S220J	•••••
R859,860,861,862		RS1/16S104J	•••••
R863		•••••	RS1/16S0R0J
R864		RS1/16S222J	•••••
C551,552,553,554		CEAR22M50NPLL	•••••
C559,564		CEA010M50LL	•••••
C560		CEA220M16LL	•••••
C563		CEA330M10LL	•••••
C635		CCSQCH101J50	•••••
C647		CEA100M16LL	•••••
C801,802,803,804		CEA2R2M50LL	•••••
C805,807		CKSQYB103K25	•••••
C806,808		CKSQYB103K25	•••••
C809,810,811,812		CCSQCH101J50	•••••
C813,814,815,816,827,828		CEA4R7M35LL	•••••
C825		CEA101M10LL	•••••
C829,830,831,832,833,834		CEA4R7M35LL	•••••

Key Board Unit

Circuit Symbol & No.	Part Name	KEH-P9200RDS/EW, X1BEW Part No.	KEX-P820RDS/EW Part No.
D903	LED	CL170FGCD	CL170DCD
D904,905,906,907,908,909	LED	CL170FGCD	CL170DCD
D910,911,912,913,914,915	LED	CL170FGCD	CL170DCD
D916,917,918,919,920,921	LED	CL170FGCD	CL170DCD
D922,923,924	LED	CL170FGCD	CL170DCD
LCD901	LCD	CAW1261	CAW1303

● LCD(CAW1261)(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW) (CAW1303)(KEX-P820RDS/EW)


R45
R44
R43
R42
R41
R40
R39
R38
R37
R36
R35
R34
R33
R32
R31
R30
R29
R28
R27
R26
R25
R24
R23
R22
R21
R20
R19
R18
R17
R16
R15
R14
R13
R12
R11
R10
R 9
R 8
R 7
R 6
R 5
R 4
R 3
R 2
R 1
R 0
C3-R
C2-R
C1-R
C0-R
N C
L39
L38
L37
L36
L35
L34
L33
L32
L31
L30
L29
L28
L27
L26
L25
L24
L23
L22
L21
L20
L19
L18
L17
L16
L15
L14
L13
L12
L11
L10
L 9
L 8
L 7
L 6
L 5
L 4
L 3
L 2
L 1
L 0
N C
N C
N C
N C
C3-L
C2-L
C1-L
C0-L
N C
R49
R48
R50
R46
R47
C1-R
C0-R
C2-R
FUNCTION
SOUND SCAPE
TP
EON
FRMT
UPDATE
REG
COMP
PTY
RPT
kHz
DISC
M-CD
RDM
WIDE
MANU
MONO
DBE
LOC
TRACK
TALK/FLAT
AUDITION
C&W/SOFT
STADIUM
R&B/VOCAL
CONCERT
CLS/JAZZ
JAZZ CLUB
SOFT/POPS
CLUB
ROCK
STUDIO
LOUD
DISC
CH
SUB.W
M-CD
1234
1/f
MTL
CDL
MS
RI
125Hz
80Hz
50Hz
C3-R
C2-R
C1-R
C0-R
C3-L
C2-L
C1-L
C0-L
C1-R
C0-R
C2-R

SEGMENT

COMMON

Fig.4

4. BLOCK DIAGRAM

● KEH-P9200RDS/EW, X1BEW

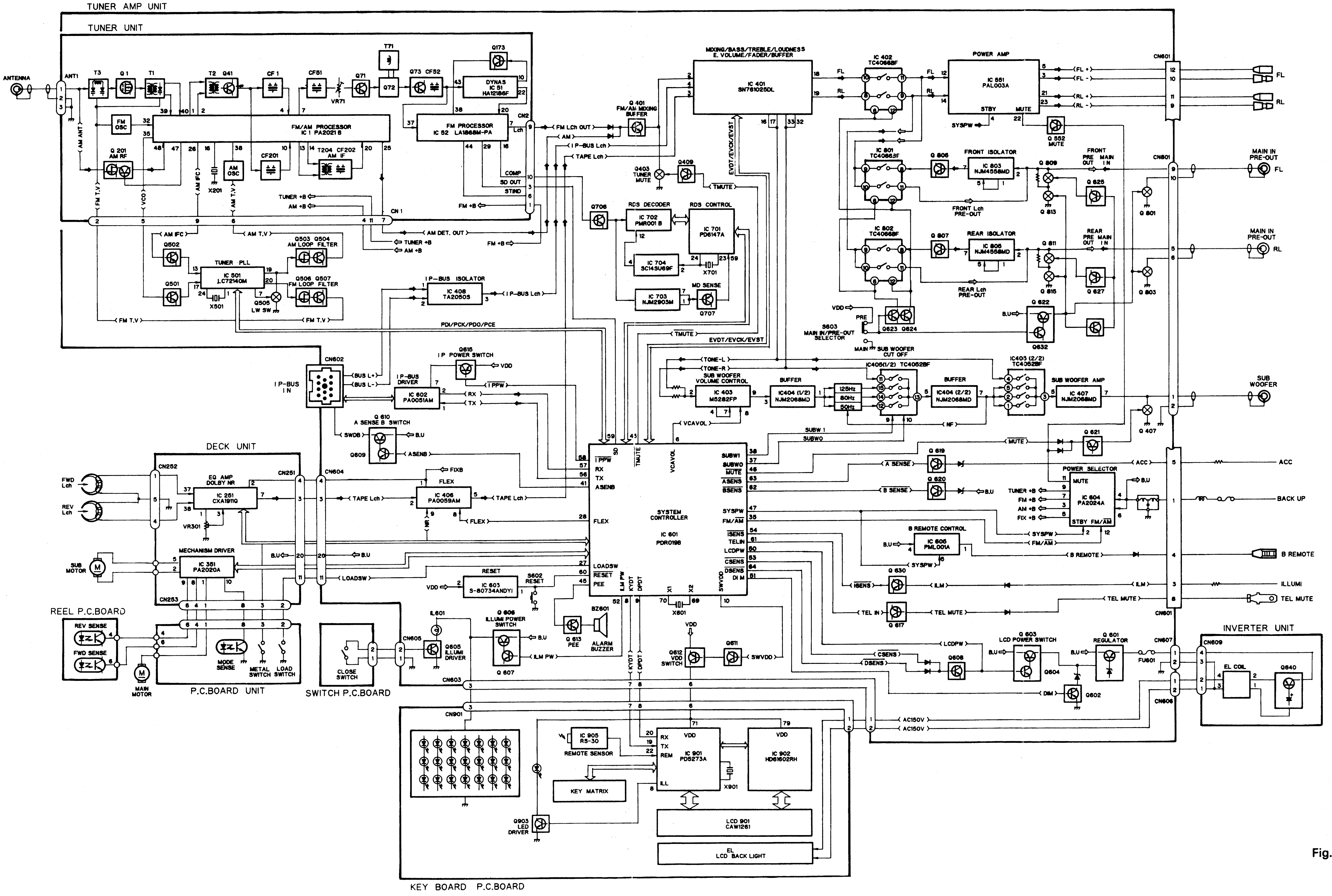
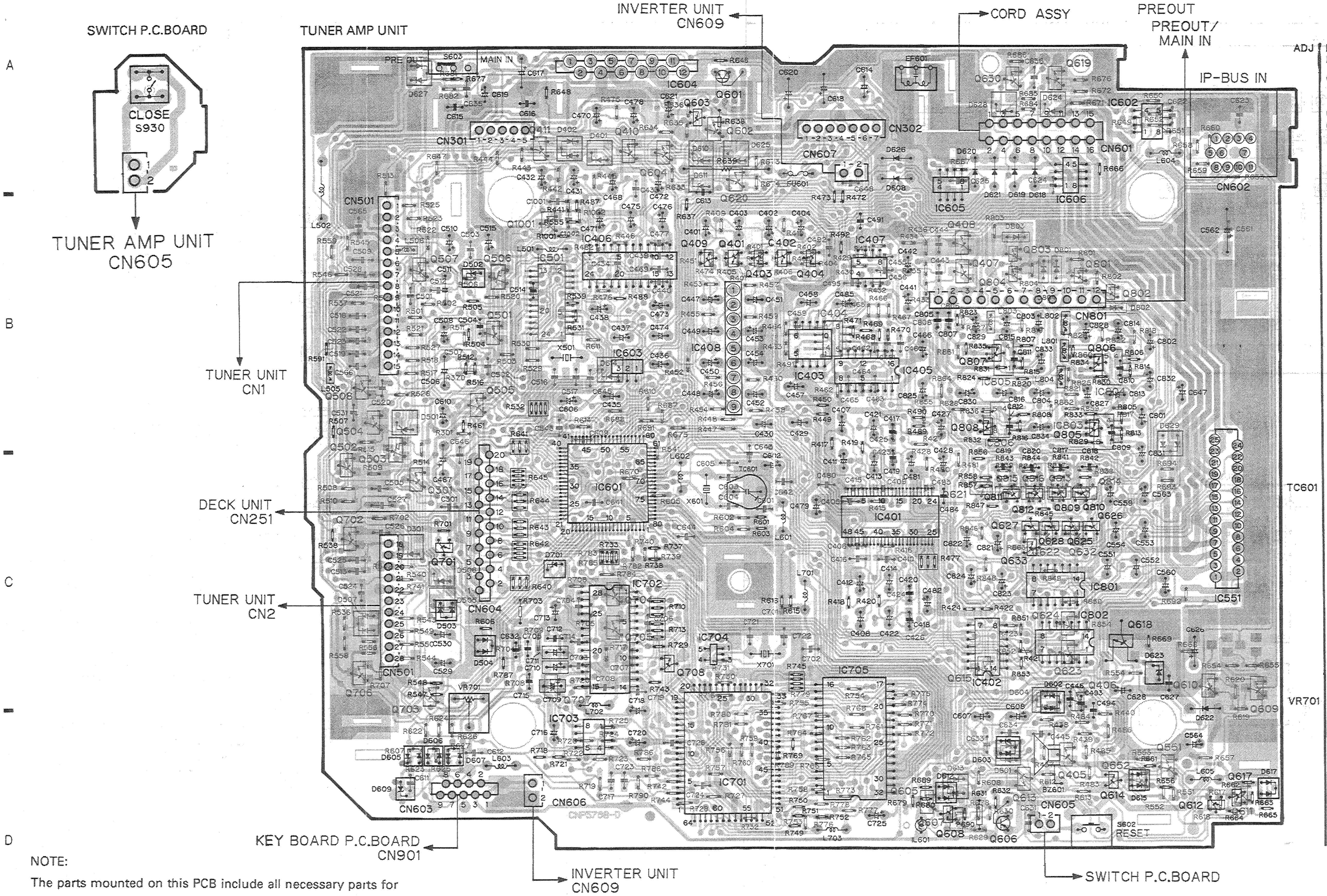

TUNER AMP UNIT
TUNER UNIT
ANTENNA
ANT1
T3
Q 1
T1
T2 Q41
CF 1
CF51
VR71
Q71
T71
Q72
Q73 CF52
Q173
DYNAS
IC 51
HA12186F
FM OSC
FM/AM PROCESSOR
IC 1 PA2021 B
FM PROCESSOR
IC 52 LA1868M-PA
Q 201
AM RF
X201
AM OSC
CF201
T204 CF202
AM IF
COMP
SD OUT
STIND
CN2
CN 1
AM ANT
FM T.V
VCO
AM IFC
AM T.V
TUNER +B
AM +B
FM +B
FM Lch OUT
AM
I P-BUS Lch
TAPE Lch
AM DET. OUT
Q502
Q501
TUNER PLL
IC 501
LC72140M
X501
Q503 Q504
AM LOOP FILTER
Q506 Q507
FM LOOP FILTER
Q505
LW SW
I P-BUS ISOLATOR
IC 408
TA20503
PDI/PCK/PDO/PCE
Q 401
FM/AM MIXING
BUFFER
Q403
TUNER
MUTE
Q409
TMUTE
Q706
RDS DECODER
IC 702
PMR001 B
RDS CONTROL
IC 701
PD6147A
IC 704
SC145U69F
X701
IC 703
NJM2903M
MD SENSE
Q707
EVDT/EVCK/EVST
MIXING/BASS/TREBLE/LOUDNESS
E. VOLUME/FADER/BUFFER
IC 401
SN761025DL
IC 402
TC4066BF
POWER AMP
IC 551
PAL003A
STBY
MUTE
SYSPW
Q 552
MUTE
IC 801
TC4066BF
Q 806
FRONT ISOLATOR
IC 803
NJM4558MD
FRONT PRE OUT
MAIN IN
Q 809
Q 813
Q 825
FRONT Lch PRE-OUT
IC 802
TC4066BF
Q 807
REAR ISOLATOR
IC 805
NJM4558MD
REAR PRE OUT
MAIN IN
Q 811
Q 815
Q 827
REAR Lch PRE-OUT
Q 801
Q 803
CN601
FL
RL
MAIN IN
PRE-OUT
VDD
PRE
S603
MAIN IN/PRE-OUT
SELECTOR
MAIN
SUB WOOFER
CUT OFF
Q623 Q624
Q 622
Q632
B.U
TONE-L
TONE-R
SUB WOOFER
VOLUME CONTROL
IC 403
M5282FP
BUFFER
IC404 (1/2)
NJM2068MD
IC405(1/2) TC4052BF
125Hz
80Hz
50Hz
IC404 (2/2)
NJM2068MD
IC403 (2/2)
TC4052BF
SUB WOOFER AMP
IC 407
NJM2068MD
SUB WOOFER
Q 407
VCAVOL
NF
SUBW 1
SUBWO
MUTE
Q 621
ACC
I P-BUS
IN
CN602
BUS L+
BUS L-
Q615
I P POWER SWITCH
I P-BUS DRIVER
IC 602
PA0051AM
I PPW
RX
TX
Q 610
A SENSE B SWITCH
SWDB
ASENB
Q609
FIXB
FLEX
IC 406
PA0059AM
CN604
DECK UNIT
CN252
CN251
EQ AMP
DOLBY NR
IC 251
CXA1911Q
VR301
FWD Lch
REV Lch
SUB MOTOR
MECHANISM DRIVER
IC 351
PA2020A
LOADSW
CN253
REEL P.C.BOARD
REV SENSE
FWD SENSE
MAIN MOTOR
MODE SENSE
METAL SWITCH
LOAD SWITCH
P.C.BOARD UNIT
CLOSE SWITCH
SWITCH P.C.BOARD
SYSTEM CONTROLLER
IC 601
PDR0198
ASENB
LOADSW
RESET
PEE
ILM PW
KYDT
DPDT
SWVDD
SUBW1
SUBWO
ASENS
BSENS
SYSPW
FM/AM
ISENS
TELIN
LCDPW
CSENS
DSENS
DI M
RESET
IC 603
S-80734ANDYI
S602
RESET
X601
Q 613
PEE
BZ601
ALARM
BUZZER
IL601
CN605
Q605
ILLUMI
DRIVER
Q 606
ILLUMI POWER
SWITCH
Q 607
ILM PW
Q612
VDD
SWITCH
Q611
SWVDD
Q 619
A SENSE
Q 620
B SENSE
POWER SELECTOR
IC 604
PA2024A
TUNER +B
FM +B
AM +B
FIX +B
STBY FM/AM
B REMOTE CONTROL
IC 605
PML001A
B REMOTE
Q 630
ILM
Q 617
TEL IN
TEL MUTE
ACC
BACK UP
ILLUMI
Q 603
LCD POWER SWITCH
Q604
Q 601
REGULATOR
FU601
Q608
DIM
Q602
CN607
CN606
CN603
INVERTER UNIT
CN609
EL COIL
Q640
AC150V
CN901
IC 905
RS-30
REMOTE SENSOR
KEY MATRIX
IC 901
PD5273A
IC 902
HD61602RH
X901
REM
ILL
LCD 901
CAW1261
EL
LCD BACK LIGHT
Q903
LED
DRIVER
KEY BOARD P.C.BOARD

Fig.5

5. CONNECTION DIAGRAM


SWITCH P.C.BOARD
CLOSE
S930
TUNER AMP UNIT
CN605
TUNER AMP UNIT
INVERTER UNIT
CN609
CORD ASSY
SUB WOOFER/
PREOUT
PREOUT/
MAIN IN
IP-BUS IN
PRE OUT
MAIN IN
CN301
CN302
CN601
CN602
CN607
CN501
CN801
IC601
IC401
IC701
IC705
IC551
TC601
VR701
TUNER UNIT
CN1
DECK UNIT
CN251
TUNER UNIT
CN2
CN604
CN603
CN606
CN605
KEY BOARD P.C.BOARD
CN901
INVERTER UNIT
CN609
SWITCH P.C.BOARD
RESET
A
B
C
D
1
2
3
4
5
6

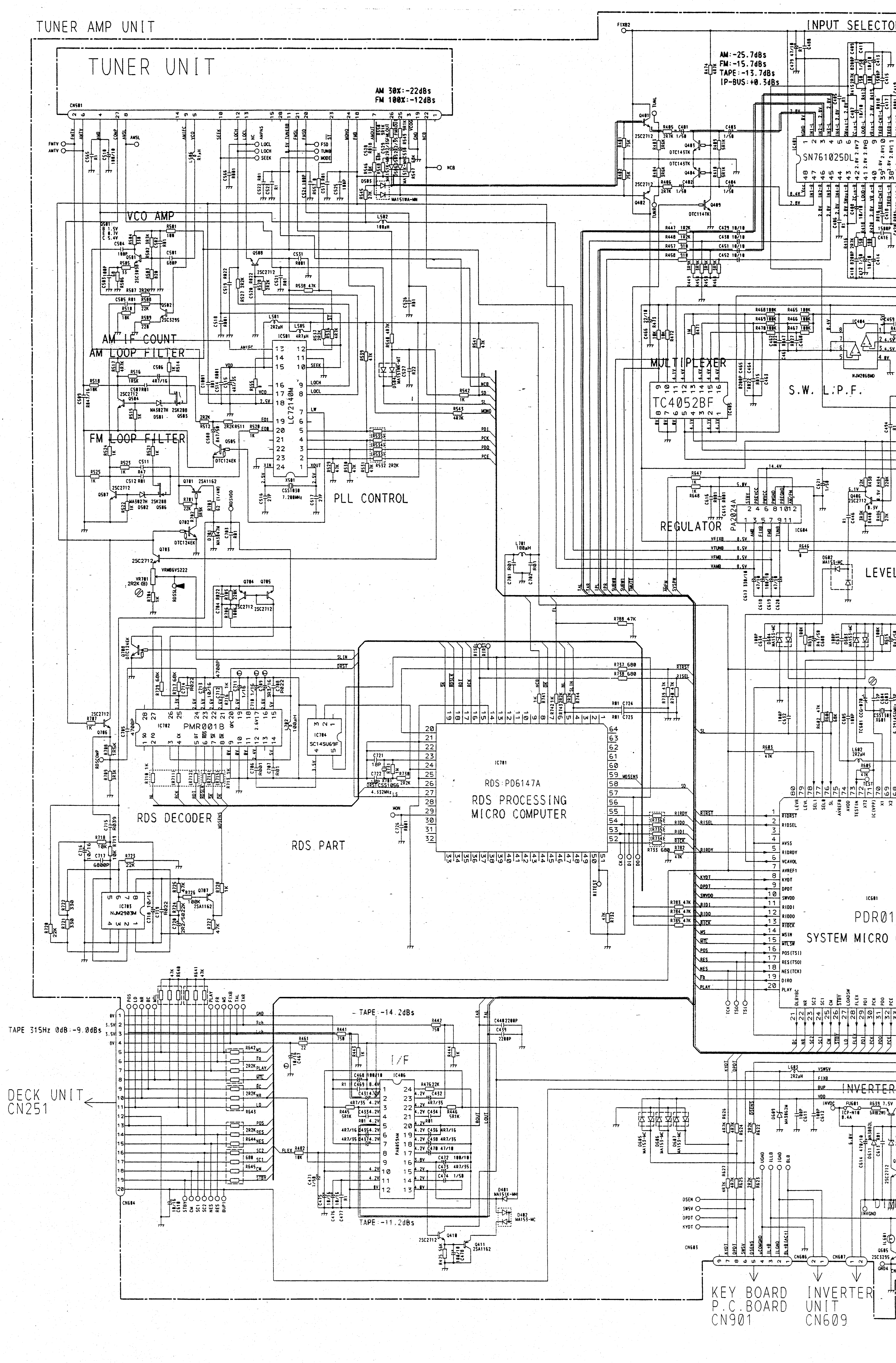
ADJ
IC, Q
IC604
Q601 Q630 Q619
Q603 IC602
Q602
Q411 Q410 Q604
Q620 IC605 IC606
Q1001
Q408 Q803
Q409 Q401 Q403 Q402 Q404
Q507 Q506 IC406
IC407 Q407 Q804 Q801
IC501 Q802
Q501 IC408 IC403 IC404
Q807 IC805 Q806 IC804
IC603 IC405
Q508
Q505 Q808 IC806 Q805 IC803
Q504
Q502 Q503
Q301
IC601 Q621
Q815 Q813 Q816 Q814
Q811 Q809 Q812 Q810
IC401 IC551
Q627 Q625 Q628 Q626
Q633 Q622 Q632
Q702
Q701
IC801
Q704
Q624
IC702 Q705 IC402 IC802
IC704 Q615 Q623 Q618
Q708
Q706 Q406 Q610 Q609
Q703 Q707
IC703 IC701 IC705 Q405
Q551
Q613 Q614 Q552 Q611 Q612
Q605 Q617
Q607 Q608 Q606

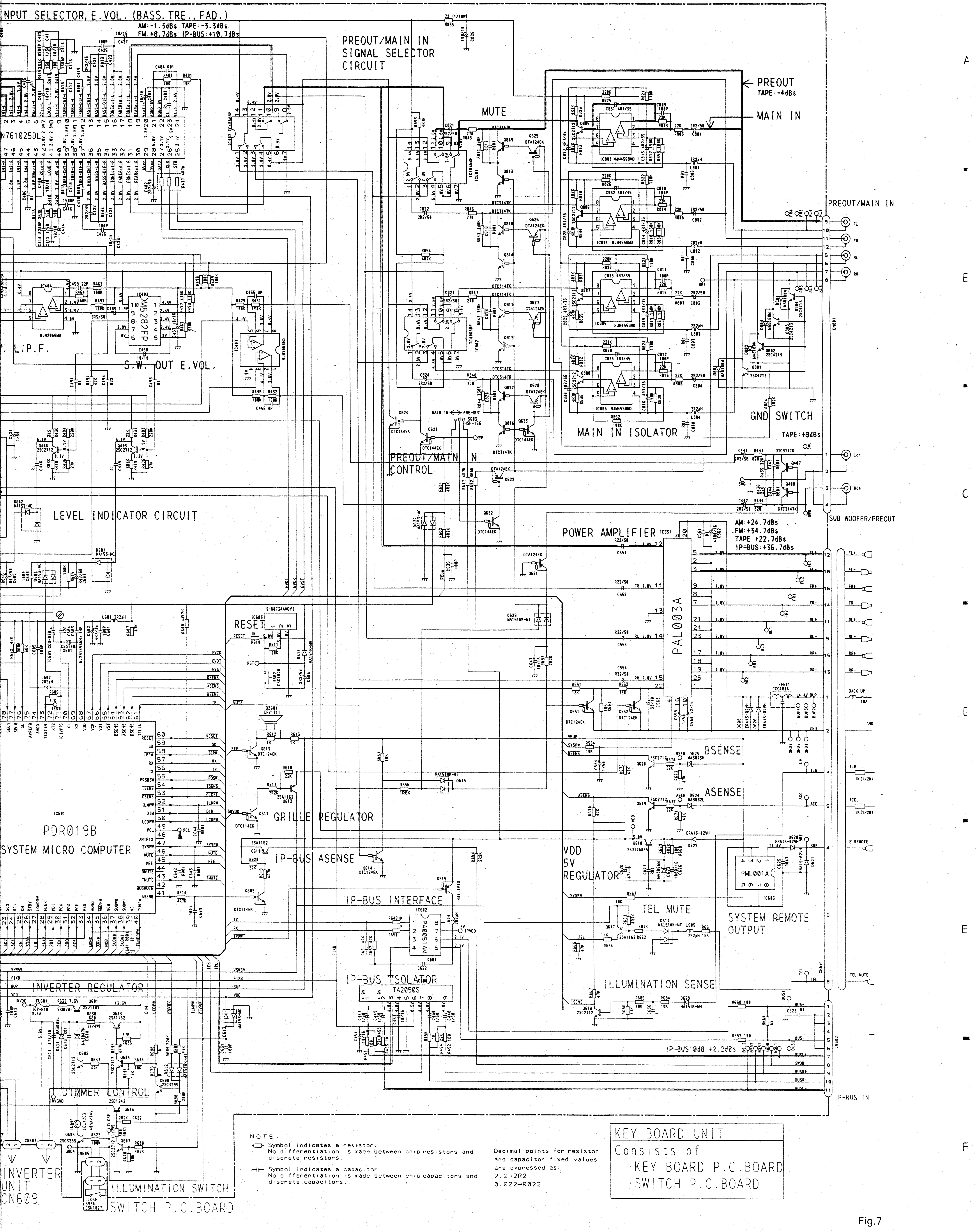
NOTE:

The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

Fig.6

6. SCHEMATIC CIRCUIT DIAGRAM(KEH-P9200RDS/EW, X1BEW)


TUNER AMP UNIT
TUNER UNIT
AM 30%:-22dBs
FM 100%:-12dBs
INPUT SELECTOR
AM:-25.7dBs
FM:-15.7dBs
TAPE:-13.7dBs
IP-BUS:+0.3dBs
SN761025DL
VCO AMP
AM IF COUNT
AM LOOP FILTER
FM LOOP FILTER
LC72140M
PLL CONTROL
MULTIPLEXER
TC4052BF
S.W. L.P.F.
REGULATOR
PA2024A
LEVEL
PMR001B
SC14SU69F
RDS DECODER
RDS PART
NJM2903M
RDS PD6147A
RDS PROCESSING
MICRO COMPUTER
PDR01
SYSTEM MICRO
TAPE 315Hz 0dB:-9.0dBs
DECK UNIT
CN251
TAPE -14.2dBs
I/F
PA8054A
TAPE -11.2dBs
INVERTER
KEY BOARD
P.C.BOARD
CN901
INVERTER
UNIT
CN609
1
2
3
4
5


INPUT SELECTOR, E.VOL. (BASS, TRE., FAD.)
AM:-1.3dBs TAPE:-3.3dBs
FM:+8.7dBs IP-BUS:+10.7dBs
PREOUT/MAIN IN
SIGNAL SELECTOR
CIRCUIT
MUTE
PREOUT
TAPE:-4dBs
MAIN IN
PREOUT/MAIN IN
FL
FR
RL
RR
L.P.F.
S.W. OUT E.VOL.
MAIN IN ISOLATOR
GND SWITCH
TAPE:+8dBs
PREOUT/MAIN IN
CONTROL
Lch
Rch
SUB WOOFER/PREOUT
LEVEL INDICATOR CIRCUIT
POWER AMPLIFIER
AM:+24.7dBs
FM:+34.7dBs
TAPE:+22.7dBs
IP-BUS:+36.7dBs
PAL003A
RESET
GRILLE REGULATOR
IP-BUS ASENSE
IP-BUS INTERFACE
PA0051AV
IP-BUS ISOLATOR
TA2050S
BSENSE
ASENSE
VDD
5V
REGULATOR
TEL MUTE
SYSTEM REMOTE
OUTPUT
PML001A
ILLUMINATION SENSE
IP-BUS 0dB:+2.2dBs
IP-BUS IN
PDR019B
SYSTEM MICRO COMPUTER
INVERTER REGULATOR
DIMMER CONTROL
INVERTER
UNIT
CN609
ILLUMINATION SWITCH
SWITCH P.C.BOARD
BACK UP
GND
ILM
ACC
B REMOTE
TEL MUTE
A
B
C
D
E
F
5
6
7
8
9

NOTE
⊏⊐ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

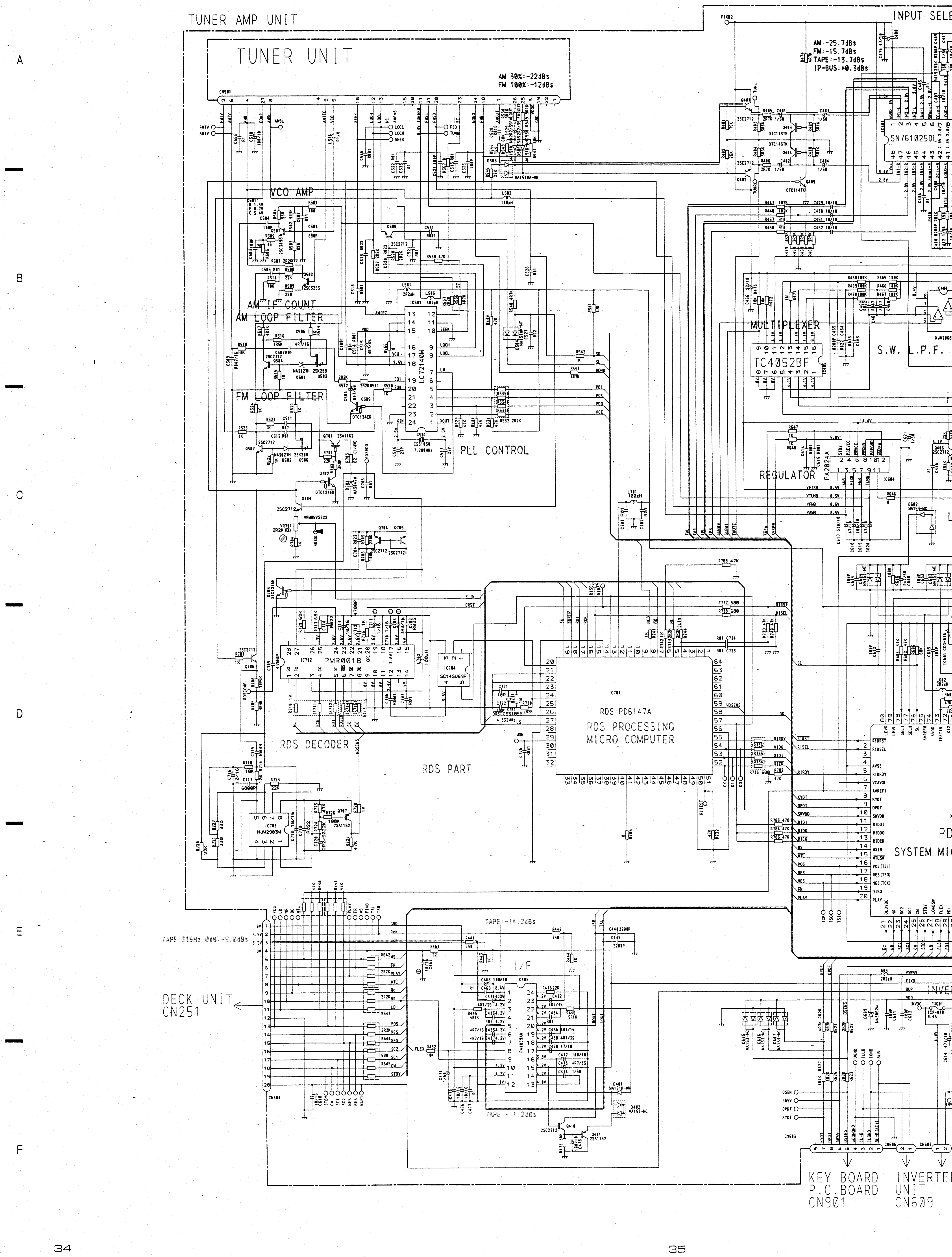
⊣⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

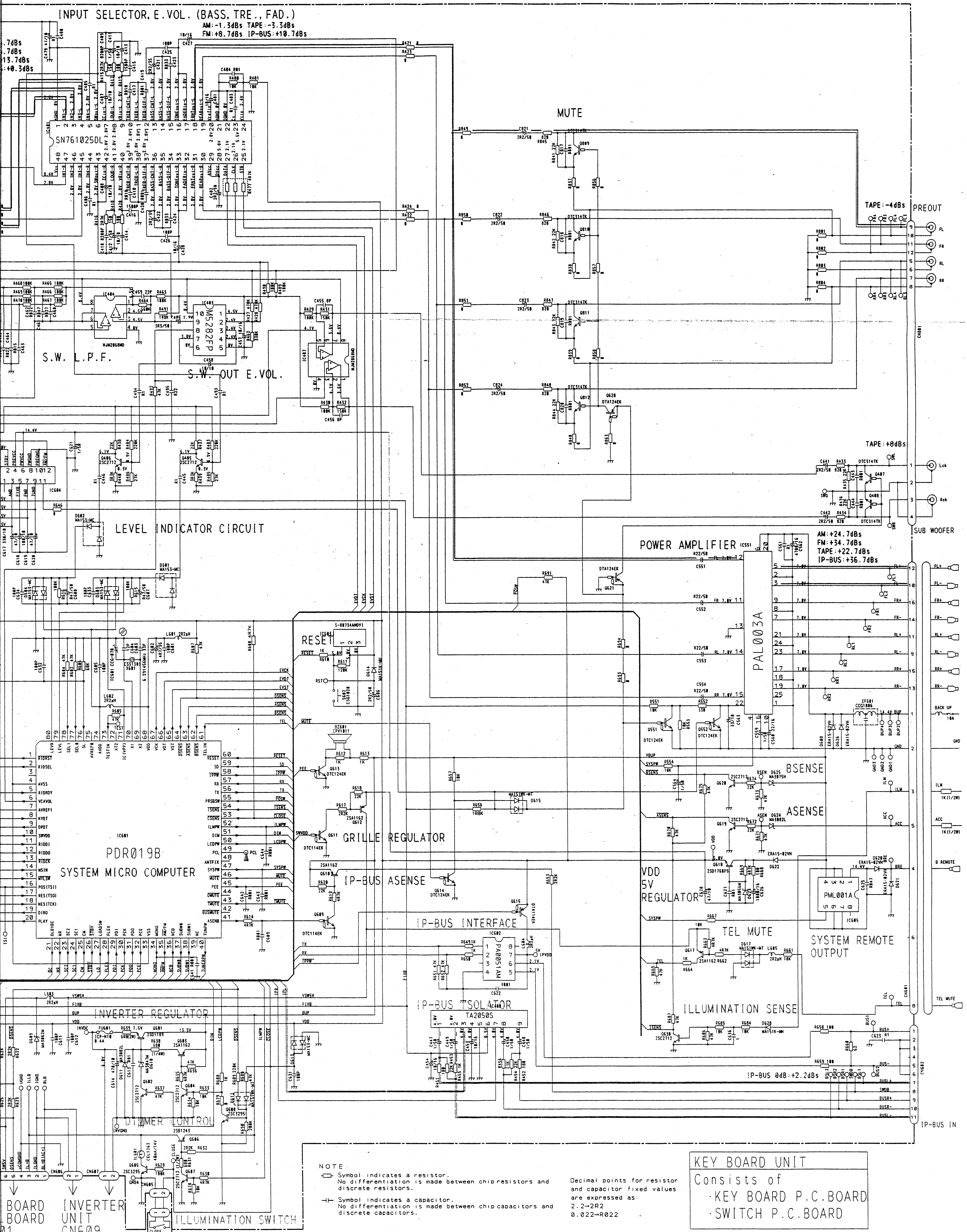
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

KEY BOARD UNIT
Consists of
·KEY BOARD P.C.BOARD
·SWITCH P.C.BOARD

Fig.7

7. SCHEMATIC CIRCUIT DIAGRAM(KEH-P8200RDS/EW, X1BEW)


A
B
C
D
E
F
1
2
3
4
5
TUNER AMP UNIT
TUNER UNIT
AM 30%:-22dBs
FM 100%:-12dBs
VCO AMP
AM IF COUNT
AM LOOP FILTER
FM LOOP FILTER
LC72140M
PLL CONTROL
RDS DECODER
PMR001B
SC14SU69F
NJM2903M
RDS PART
IC781
RDS PD6147A
RDS PROCESSING
MICRO COMPUTER
INPUT SELE
AM:-25.7dBs
FM:-15.7dBs
TAPE:-13.7dBs
IP-BUS:+0.3dBs
SN761025DL
MULTIPLEXER
TC4052BF
S.W. L.P.F.
REGULATOR
PA2024A
SYSTEM MI
TAPE 315Hz 0dB:-9.0dBs
DECK UNIT
CN251
TAPE :-14.2dBs
I/F
TAPE :-11.2dBs
KEY BOARD
P.C.BOARD
CN901
INVERTER
UNIT
CN609


INPUT SELECTOR, E.VOL. (BASS, TRE., FAD.)
AM:-1.3dBs TAPE:-3.3dBs
FM:+8.7dBs IP-BUS:+10.7dBs
SN761025DL
IC401
MUTE
TAPE:-4dBs
PREOUT
FL
FR
RL
RR
S.W. L.P.F.
NJM2068MD
IC404
IC405
M5282FP
S.W. OUT E.VOL.
IC407
NJM2068MD
TAPE:+8dBs
Lch
Rch
SUB WOOFER
LEVEL INDICATOR CIRCUIT
IC604
POWER AMPLIFIER
IC551
PAL003A
AM:+24.7dBs
FM:+34.7dBs
TAPE:+22.7dBs
IP-BUS:+36.7dBs
RESET
S-80734ANDY1
IC603
PDR019B
SYSTEM MICRO COMPUTER
IC601
GRILLE REGULATOR
IP-BUS ASENSE
IP-BUS INTERFACE
IC602
PA0051AM
IP-BUS ISOLATOR
TA2050S
VDD
5V
REGULATOR
BSENSE
ASENSE
TEL MUTE
SYSTEM REMOTE
OUTPUT
PML001A
IC605
ILLUMINATION SENSE
INVERTER REGULATOR
DIMMER CONTROL
ILLUMINATION SWITCH
SWITCH P.C.BOARD
IP-BUS 0dB:+2.2dBs
IP-BUS IN
BACK UP
GND
ILM
ACC
B REMOTE
TEL MUTE
CN601
CN602
CN606
CN607
BOARD
BOARD
INVERTER
UNIT
CN609

NOTE:

⊏⊐ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

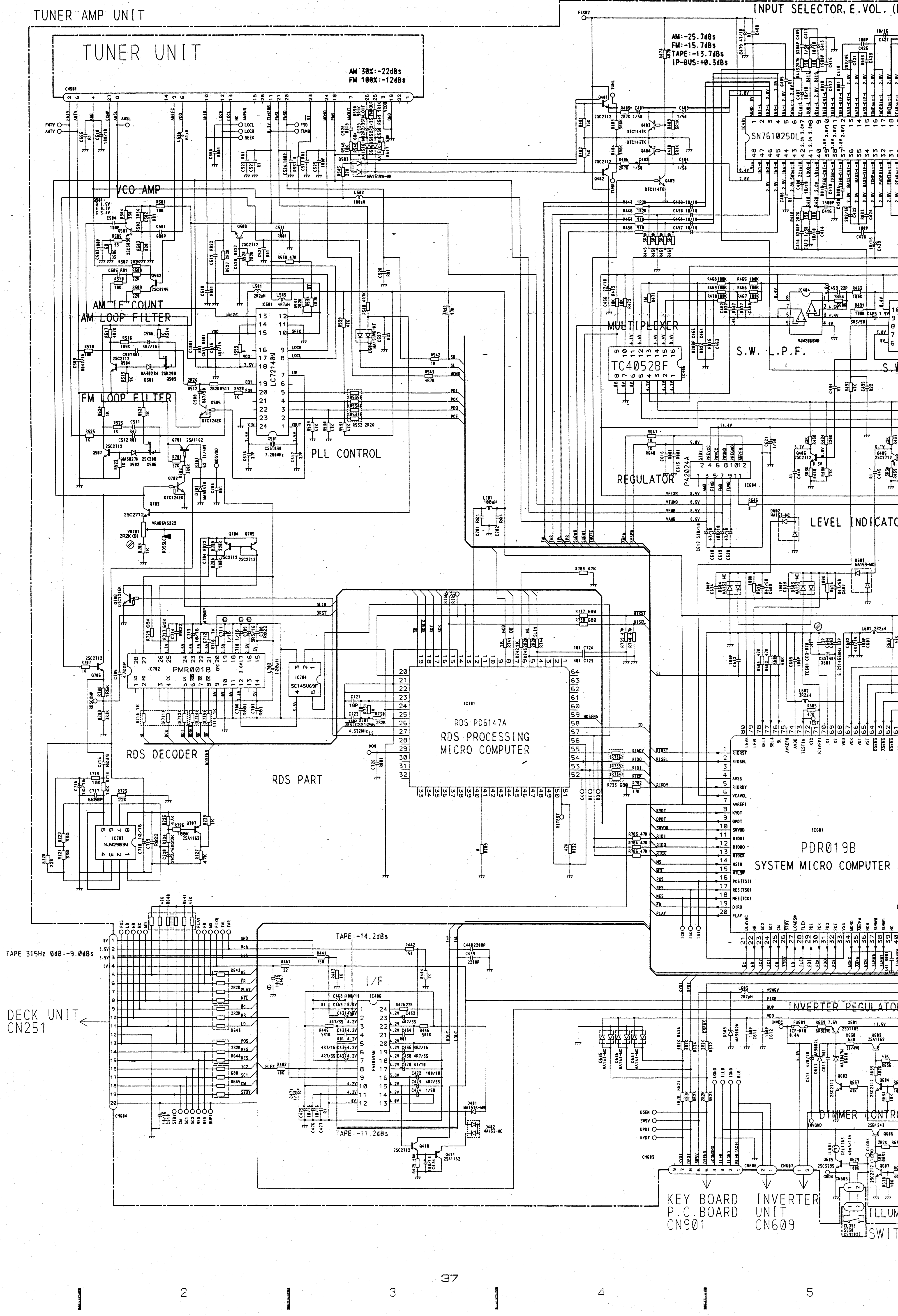
⊣⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

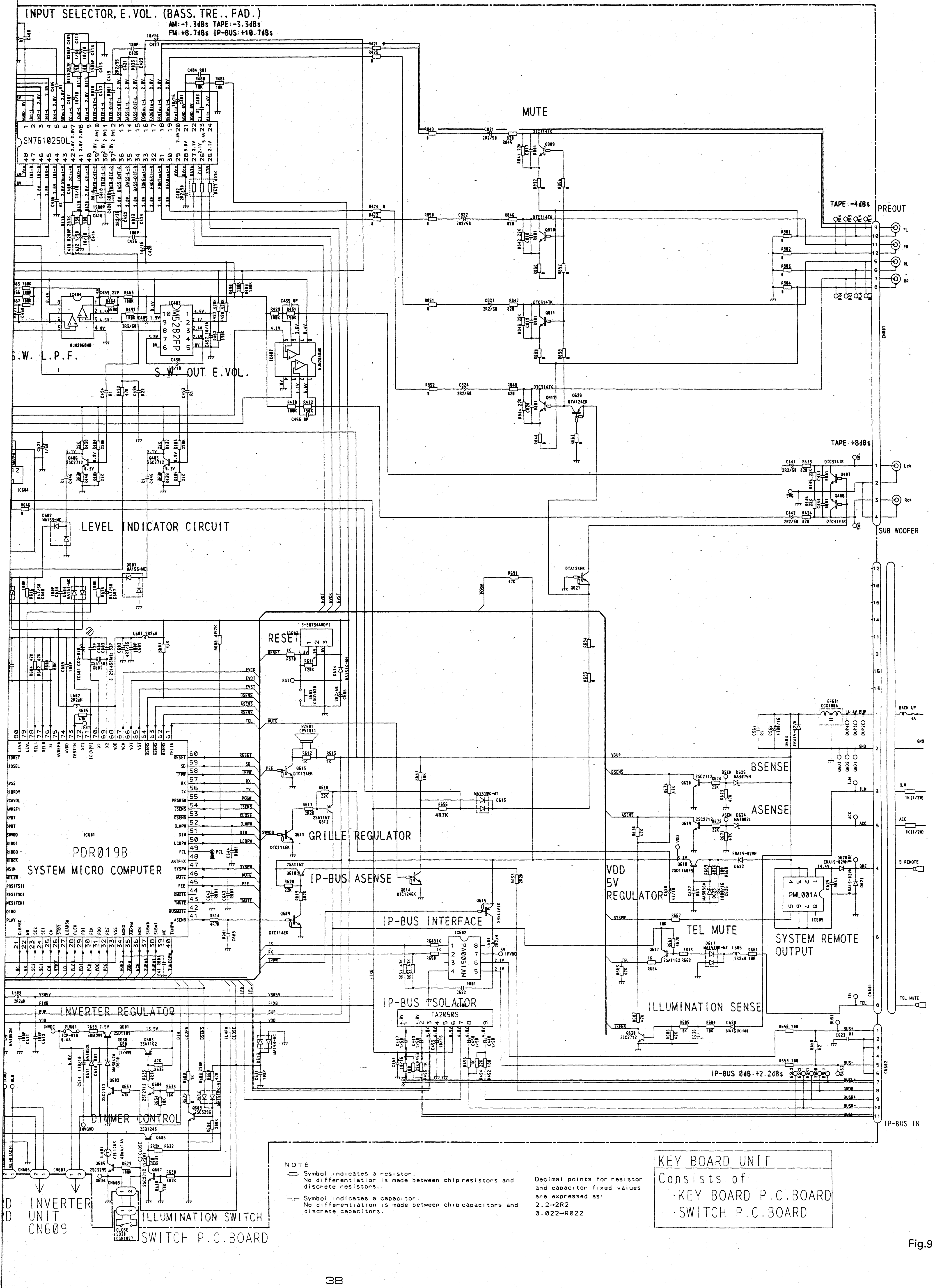
Decimal points for resistor
and capacitor fixed values
are expressed as:
2.2→2R2
0.022→R022

KEY BOARD UNIT
Consists of
·KEY BOARD P.C.BOARD
·SWITCH P.C.BOARD

Fig.8

8. SCHEMATIC CIRCUIT DIAGRAM(KEX-P820RDS/EW)


TUNER AMP UNIT
TUNER UNIT
AM 30%:-22dBs
FM 100%:-12dBs
CN501
VCO AMP
AM IF COUNT
AM LOOP FILTER
FM LOOP FILTER
LC72140M
PLL CONTROL
RDS DECODER
PMR001B
SC14SU69F
RDS PART
NJM2903M
IC701
RDS PD6147A
RDS PROCESSING
MICRO COMPUTER
INPUT SELECTOR, E.VOL. (
AM:-25.7dBs
FM:-15.7dBs
TAPE:-13.7dBs
IP-BUS:+0.3dBs
SN761025DL
MULTIPLEXER
TC4052BF
S.W. L.P.F.
NJM2068MD
REGULATOR
PA2024A
LEVEL INDICATO
IC601
PDR019B
SYSTEM MICRO COMPUTER
TAPE 315Hz 0dB:-9.0dBs
DECK UNIT
CN251
CN604
TAPE:-14.2dBs
I/F
IC406
PA0055AM
TAPE:-11.2dBs
INVERTER REGULATO
DIMMER CONTRO
KEY BOARD
P.C.BOARD
CN901
INVERTER
UNIT
CN609
ILLUM
SWIT
1
2
3
4
5


INPUT SELECTOR, E.VOL. (BASS, TRE., FAD.)
AM:-1.3dBs TAPE:-3.3dBs
FM:+8.7dBs IP-BUS:+10.7dBs
SN761025DL
MUTE
TAPE:-4dBs
PREOUT
FL
FR
RL
RR
CN801
S.W. L.P.F.
NJM2068MD
M5282FP
S.W. OUT E.VOL.
TAPE:+8dBs
Lch
Rch
SUB WOOFER
LEVEL INDICATOR CIRCUIT
RESET
S-80734ANDY
PDR019B
SYSTEM MICRO COMPUTER
IC601
GRILLE REGULATOR
IP-BUS ASENSE
IP-BUS INTERFACE
PA0050AM
IP-BUS ISOLATOR
TA2050S
INVERTER REGULATOR
DIMMER CONTROL
ILLUMINATION SWITCH
SWITCH P.C.BOARD
INVERTER UNIT CN609
BSENSE
ASENSE
VDD 5V REGULATOR
TEL MUTE
SYSTEM REMOTE OUTPUT
PML001A
ILLUMINATION SENSE
IP-BUS 0dB:+2.2dBs
IP-BUS IN
BACK UP
GND
ILM
ACC
B REMOTE
TEL MUTE

NOTE:

⊏⊐ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

⊣⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

KEY BOARD UNIT
Consists of
·KEY BOARD P.C.BOARD
·SWITCH P.C.BOARD

Fig.9

9. CIRCUIT DIAGRAM AND PATTERN

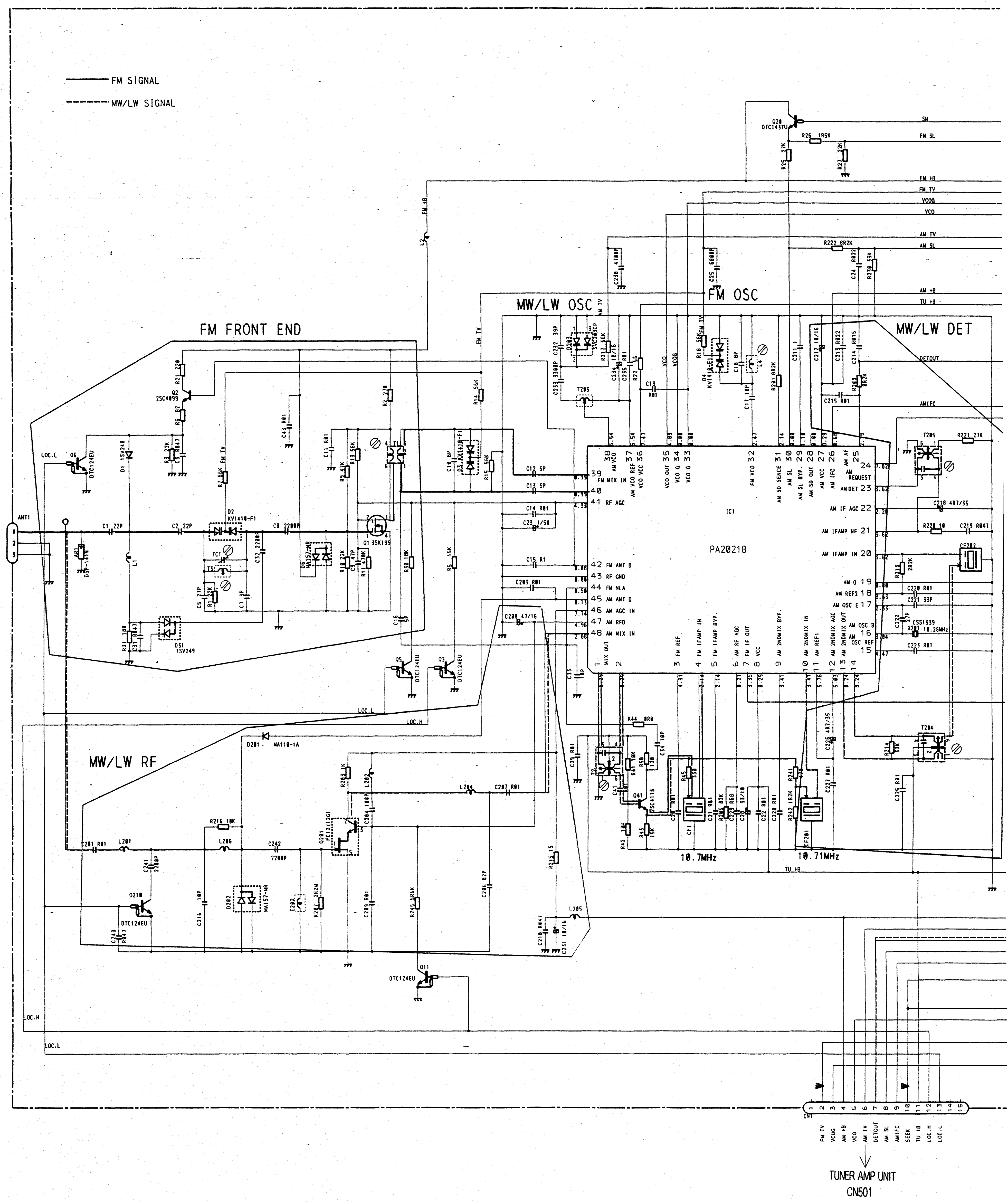
9.1 TUNER UNIT(KEH-P9200RDS/EW, X1BEW)

● Circuit Diagram

NOTE :
- Symbol indicates a resistor. No differentiation is made between chip resi discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capa discrete capacitors.

Decimal points for resistor
and capacitor fixed values
are expressed as:
2.2→2R2
0.022→R022

TUNER UNIT



A
B
C
D
E
F
FM SIGNAL
MW/LW SIGNAL
FM FRONT END
MW/LW OSC
FM OSC
MW/LW DET
MW/LW RF
ANT1
LOC.L
LOC.H
Q6 DTC124EU
D1 1SV248
Q2 2SC4899
D2 KV1410-F1
Q1 3SK199
D31 1SV249
D5 MA157-HR
Q5 DTC124EU
Q3 DTC124EU
D201 MA110-1A
Q201 FC12(120)
Q210 DTC124EU
D202 MA157-HR
Q11 DTC124EU
Q20 DTC145TU
Q41 2SC4116
IC1
PA2021B
38 AM VCO
39 FM MIX IN
40
41 RF AGC
42 FM ANT D
43 RF GND
44 FM NLA
45 AM ANT D
46 AM AGC IN
47 AM RFO
48 AM MIX IN
1 MIX OUT
2
3 FM REF
4 FM IFAMP IN
5 FM IFAMP BYP.
6 AM RF AGC
7 FM IF OUT
8 VCC
9 AM 2NDMIX BYP.
10 AM 2NDMIX IN
11 AM REF1
12 AM 2NDMIX AGC
13 AM 2NDMIX OUT
14
15 OSC REF
16 AM OSC B
17 AM OSC E
18 AM REF2
19 AM G
20 AM IFAMP IN
21 AM IFAMP NF
22 AM IF AGC
23 AM DET
24 AM REQUEST
25 AM AF
26 AM IFC
27 AM VCC
28 AM SD OUT
29 AM SL BYP.
30 AM SL
31 AM SD SENCE
32 FM VCO
33 VCO G
34 VCO G
35 VCO OUT
36 VCO VCC
37 AM VCO REF
10.7MHz
10.71MHz
CF1
CF201
CF202
X201 CSS1339 10.26MHz
T203
T204
T205
SM
FM SL
FM +B
FM TV
VCOG
VCO
AM TV
AM SL
AM +B
TU +B
DETOUT
AMIFC
CN1
1 FM TV
2 VCOG
3 AM +B
4 VCO
5 AM TV
6 DETOUT
7 AM SL
8 AMIFC
9 SEEK
10 TU +B
11 LOC.H
12 LOC.L
13
14
15
TUNER AMP UNIT
CN501
1
2
3
4

resistors and

capacitors and

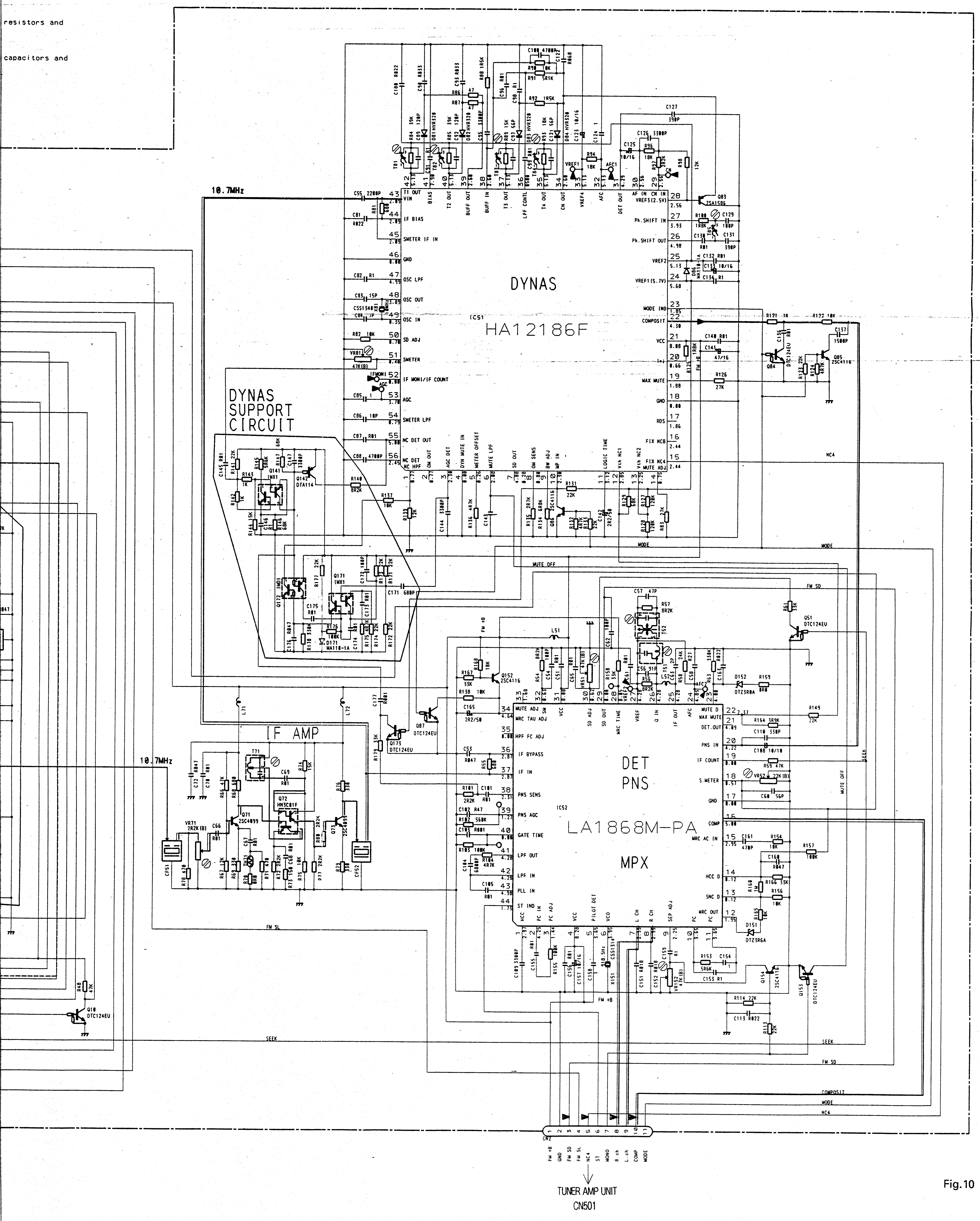

10.7MHz
DYNAS
IC51
HA12186F
DYNAS SUPPORT CIRCUIT
IF AMP
10.7MHz
DET
PNS
IC52
LA1868M-PA
MPX
CN2
FM +B
GND
FM SD
FM SL
NC4
ST
MONO
R.ch
L.ch
COMP
MODE
TUNER AMP UNIT
CN501
SEEK
FM SD
COMPOSIT
MODE
NC4
MUTE OFF
FM SL

Fig.10

● **Connection Diagram**

TUNER UNIT

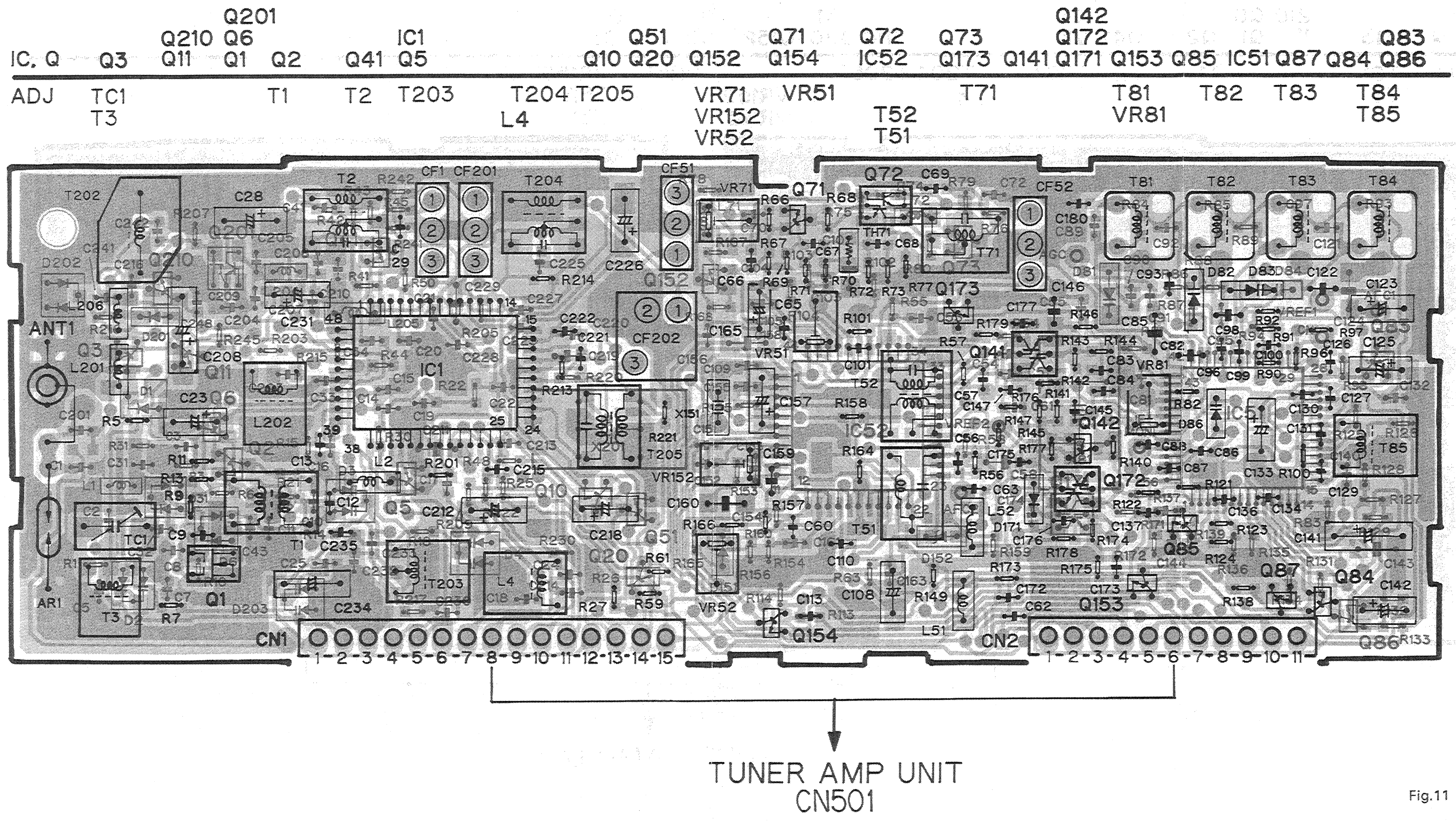

IC, Q
Q3
Q210 Q11
Q201 Q6 Q1
Q2
Q41
IC1 Q5
Q10
Q51 Q20
Q152
Q71 Q154
Q72 IC52
Q73 Q173
Q141
Q142 Q172 Q171
Q153
Q85
IC51
Q87
Q84
Q83 Q86
ADJ
TC1 T3
T1
T2
T203
T204 L4
T205
VR71 VR152 VR52
VR51
T52 T51
T71
T81 VR81
T82
T83
T84 T85
ANT1
AR1
T202
C28
T2
CF1
CF201
T204
CF51
CF202
CF52
T81
T82
T83
T84
IC1
IC52
IC51
L202
L201
L2
L4
L51
L52
T203
T205
T85
T71
T1
T3
TC1
X151
CN1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CN2
1 2 3 4 5 6 7 8 9 10 11
TUNER AMP UNIT
CN501

Fig.11

9.2 TUNER UNIT(KEH-P8200RDS/EW, X1BEW, KEX-P820RDS/EW)

● Connection Diagram

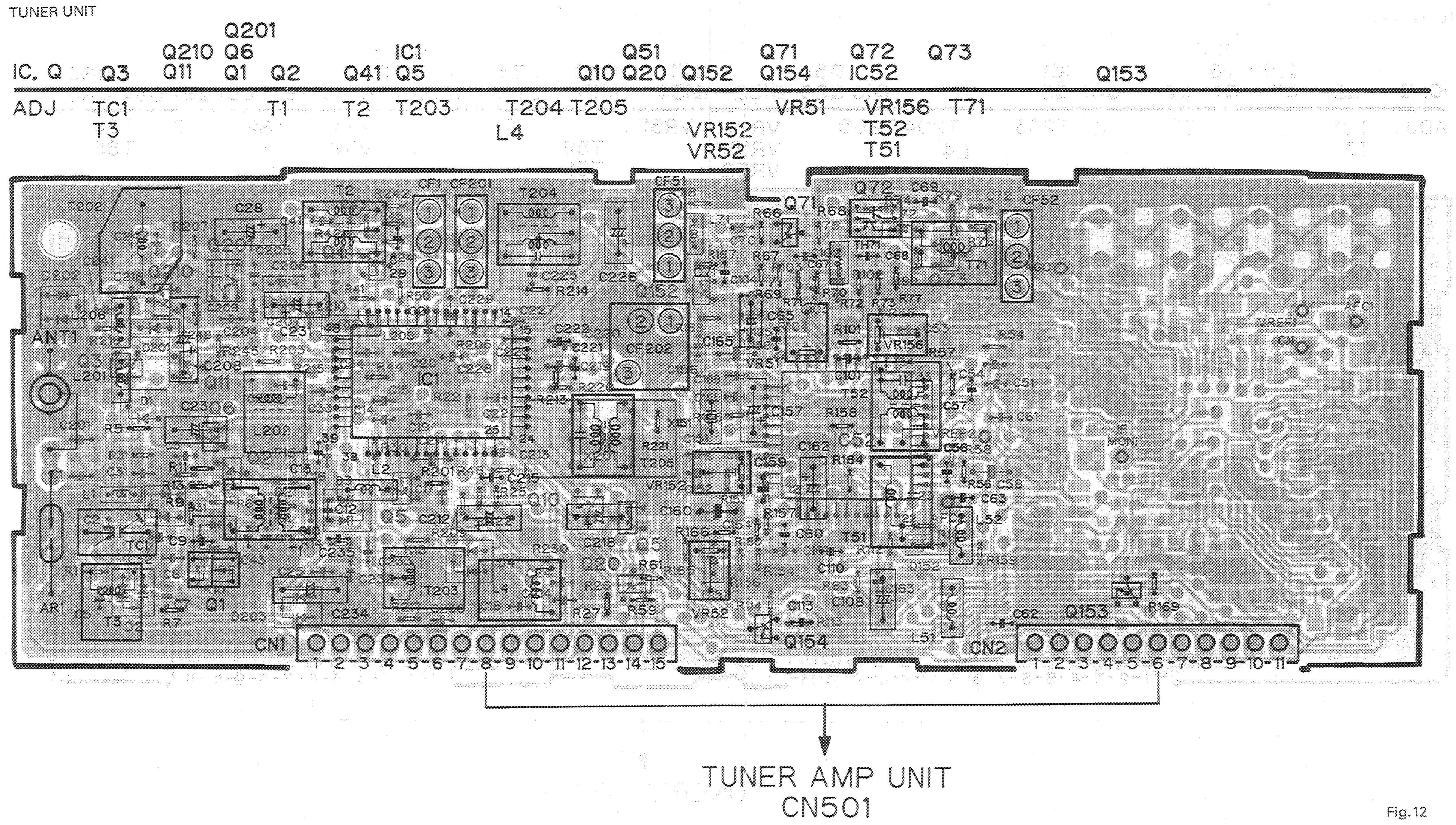
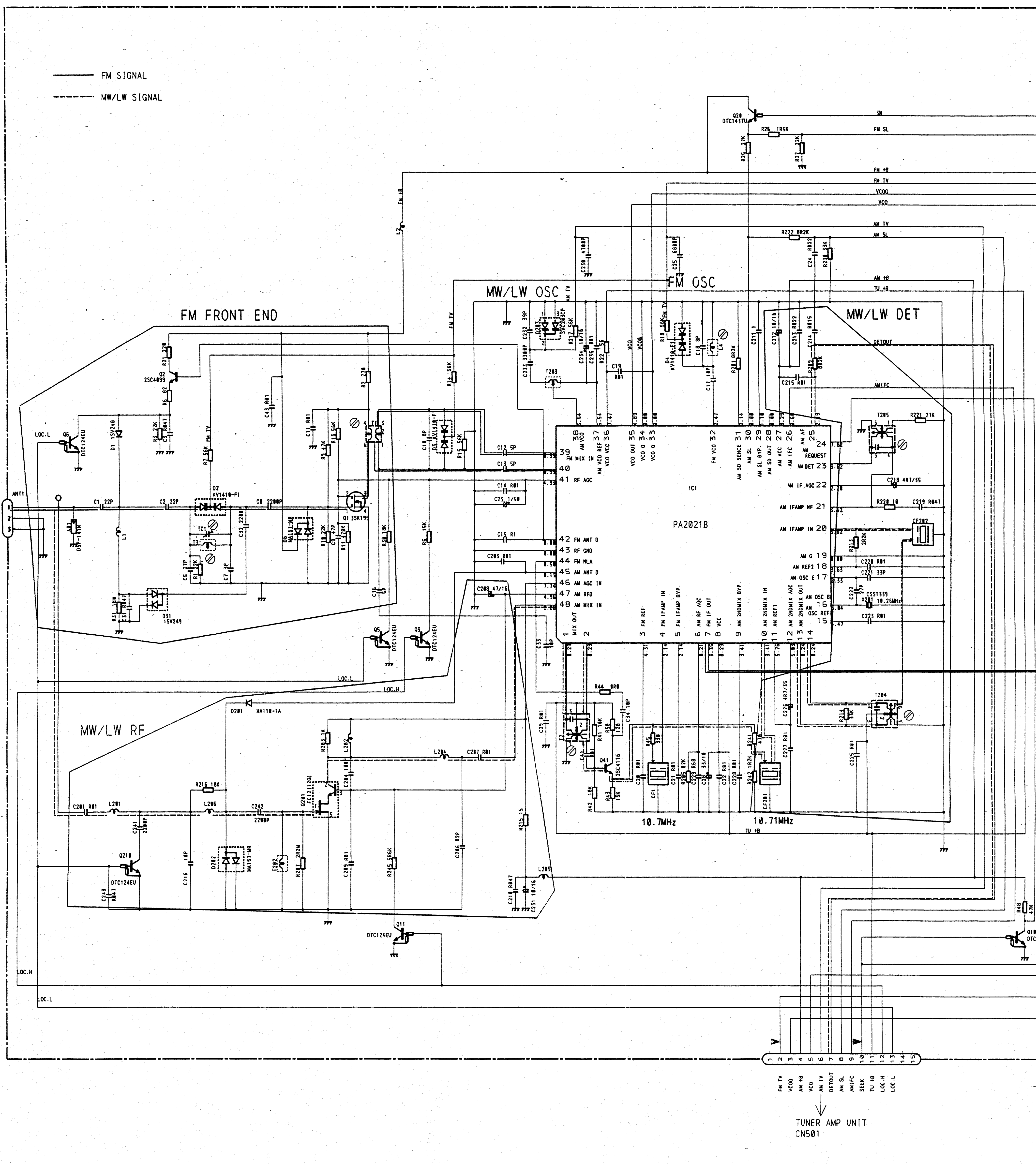

A
B
C
D
TUNER UNIT
IC, Q
Q3
Q210
Q11
Q201
Q6
Q1
Q2
Q41
IC1
Q5
Q10
Q51
Q20
Q152
Q71
Q154
Q72
IC52
Q73
Q153
ADJ
TC1
T3
T1
T2
T203
T204
L4
T205
VR152
VR52
VR51
VR156
T52
T51
T71
ANT1
AR1
CN1
CN2
CF1
CF201
CF51
CF52
CF202
IF MONI
VREF1
VREF2
AFC1
AGC
TUNER AMP UNIT
CN501

Fig.12

● Circuit Diagram

TUNER UNIT



FM SIGNAL
MW/LW SIGNAL
FM FRONT END
MW/LW OSC
FM OSC
MW/LW DET
MW/LW RF
PA2021B
IC1
ANT1
Q1 3SK199
Q2 2SC4899
Q6 DTC124EU
Q5 DTC124EU
Q3 DTC124EU
Q11 DTC124EU
Q210 DTC124EU
Q20 DTC143TU
Q41 2SC4116
Q201 FC12(120)
D1 1SV248
D2 KV1410-F1
D4 KV1410-E1
D6 MA157-WR
D31 1SV249
D201 MA110-1A
D202 MA157-WR
T1
T203
T204
T205
CF1
CF201
CF202
CSS1339
10.7MHz
10.71MHz
LOC.L
LOC.H
SM
FM SL
FM +B
FM TV
VCOG
VCO
AM TV
AM SL
AM +B
TU +B
DETOUT
AMIFC
FM TV
VCOG
AM +B
VCO
AM TV
DETOUT
AM SL
AMIFC
SEEK
TU +B
LOC.H
LOC.L
TUNER AMP UNIT
CN501

NOTE:

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor
and capacitor fixed values
are expressed as:
2.2→2R2
0.022→R022

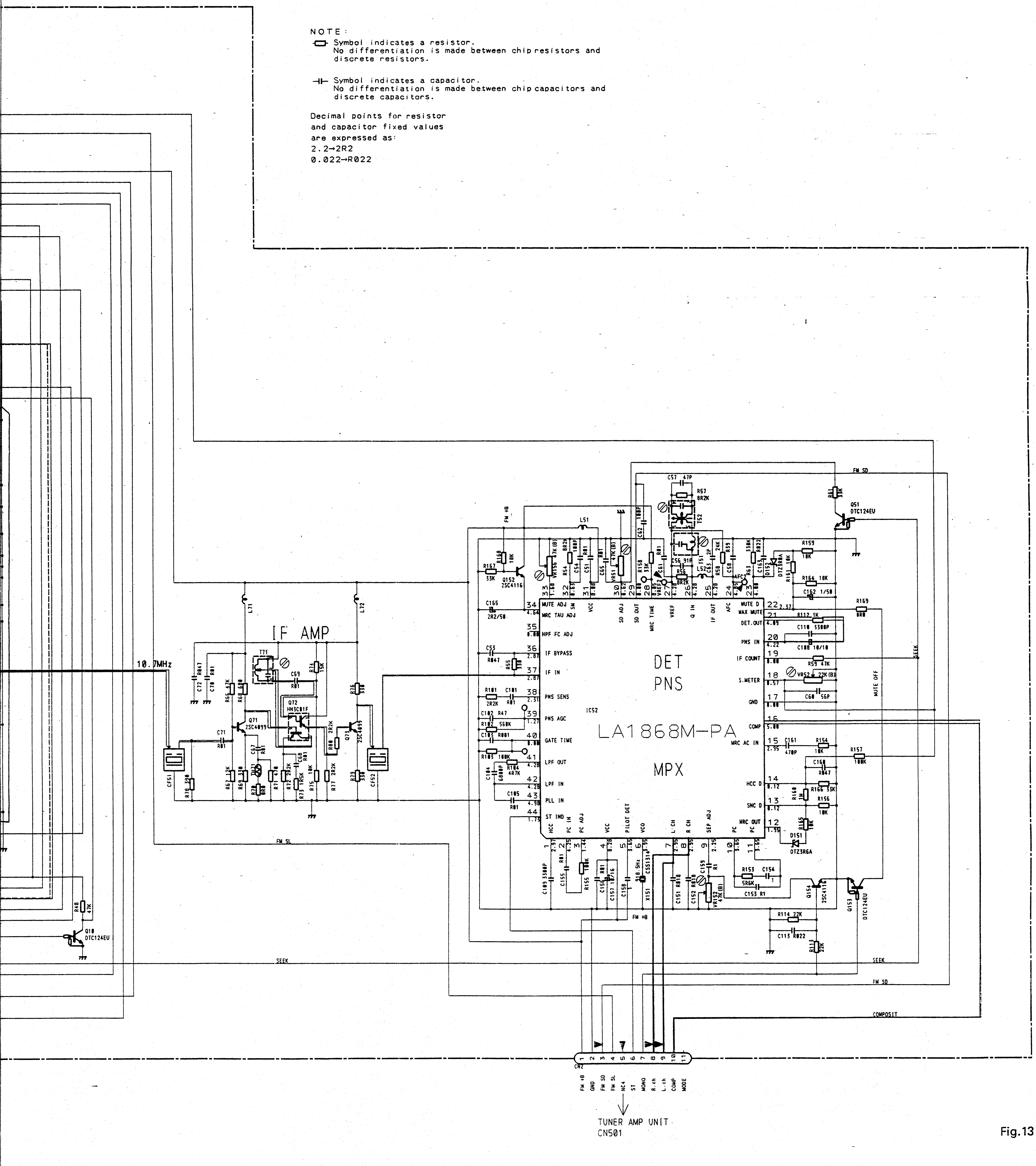
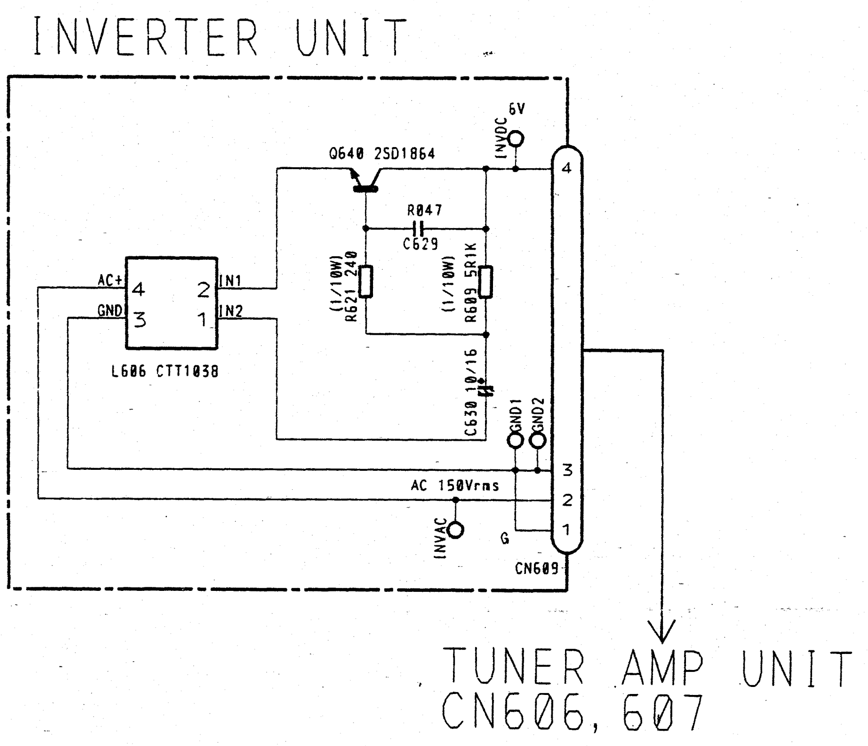

IF AMP
10.7MHz
CF51
CF52
T71
Q71 2SC4099
Q72 HN3C01F
Q73 2SC4099
L71
L72
IC52
LA1868M-PA
DET
PNS
MPX
MUTE ADJ
MRC TAU ADJ
HPF FC ADJ
IF BYPASS
IF IN
PNS SENS
PNS AGC
GATE TIME
LPF OUT
LPF IN
PLL IN
ST IND
MUTE D
MAX MUTE
DET.OUT
PNS IN
IF COUNT
S.METER
GND
COMP
MRC AC IN
HCC D
SNC D
MRC OUT
Q51 DTC124EU
Q152 2SC4116
Q153 DTC124EU
Q154 2SC4116
Q18 DTC124EU
D151 DTZ3R6A
D152 DTZ3R6A
T51
T52
L51
L52
VR51
VR52
FM +B
FM SD
FM SL
SEEK
MUTE OFF
COMPOSIT
CN2
FM +B
GND
FM SD
FM SL
NC4
ST
MONO
R.ch
L.ch
COMP
MODE
TUNER AMP UNIT
CN501

Fig.13

9.3 INVERTER UNIT

● Circuit Diagram


INVERTER UNIT
6V
INVDC
Q640 2SD1864
R047
C629
(1/10W) R621 240
(1/10W) R609 5R1K
AC+
GND
4
3
2
1
IN1
IN2
L606 CTT1038
C630 10/16
GND1
GND2
AC 150Vrms
INVAC
G
CN609
TUNER AMP UNIT
CN606, 607

NOTE:

- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor
and capacitor fixed values
are expressed as:
2.2→2R2
0.022→R022

Fig.14

● Connection Diagram

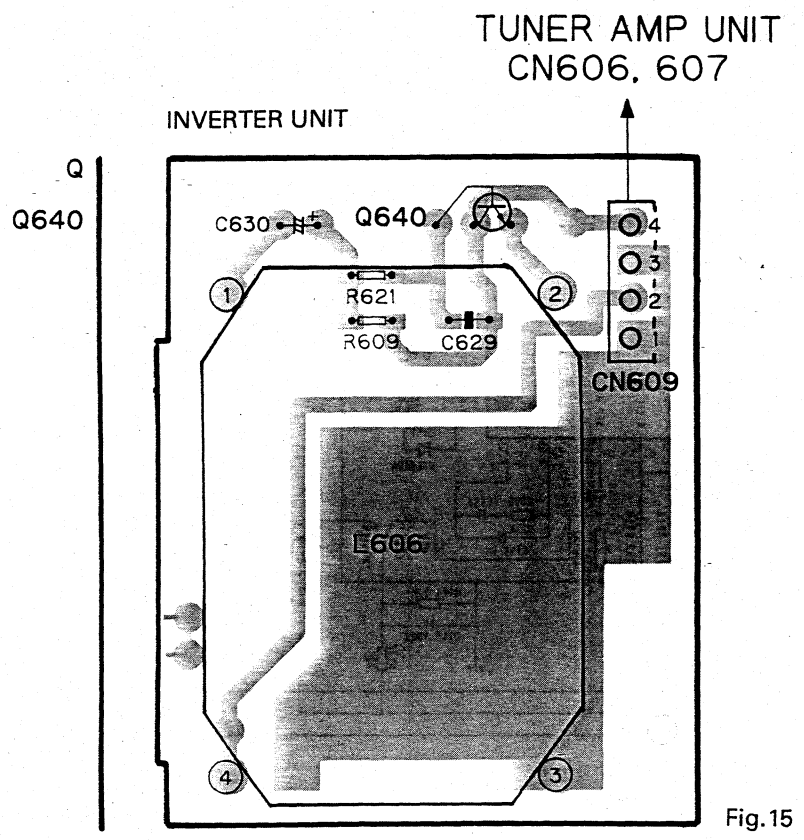
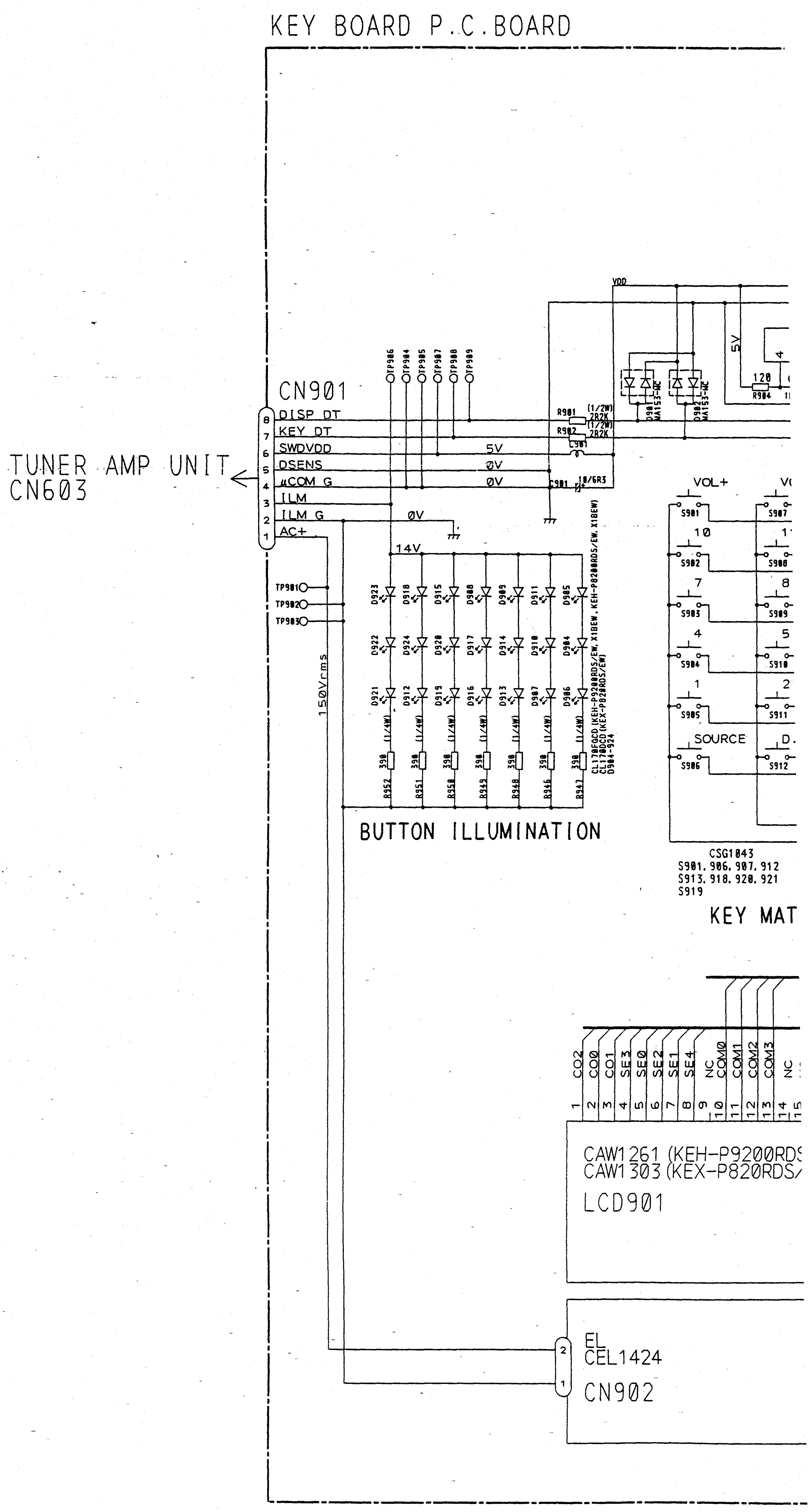

TUNER AMP UNIT
CN606, 607
INVERTER UNIT
Q
Q640
C630
Q640
R621
R609
C629
CN609
4
3
2
1
L606
①
②
③
④

Fig.15

NOTE:
The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

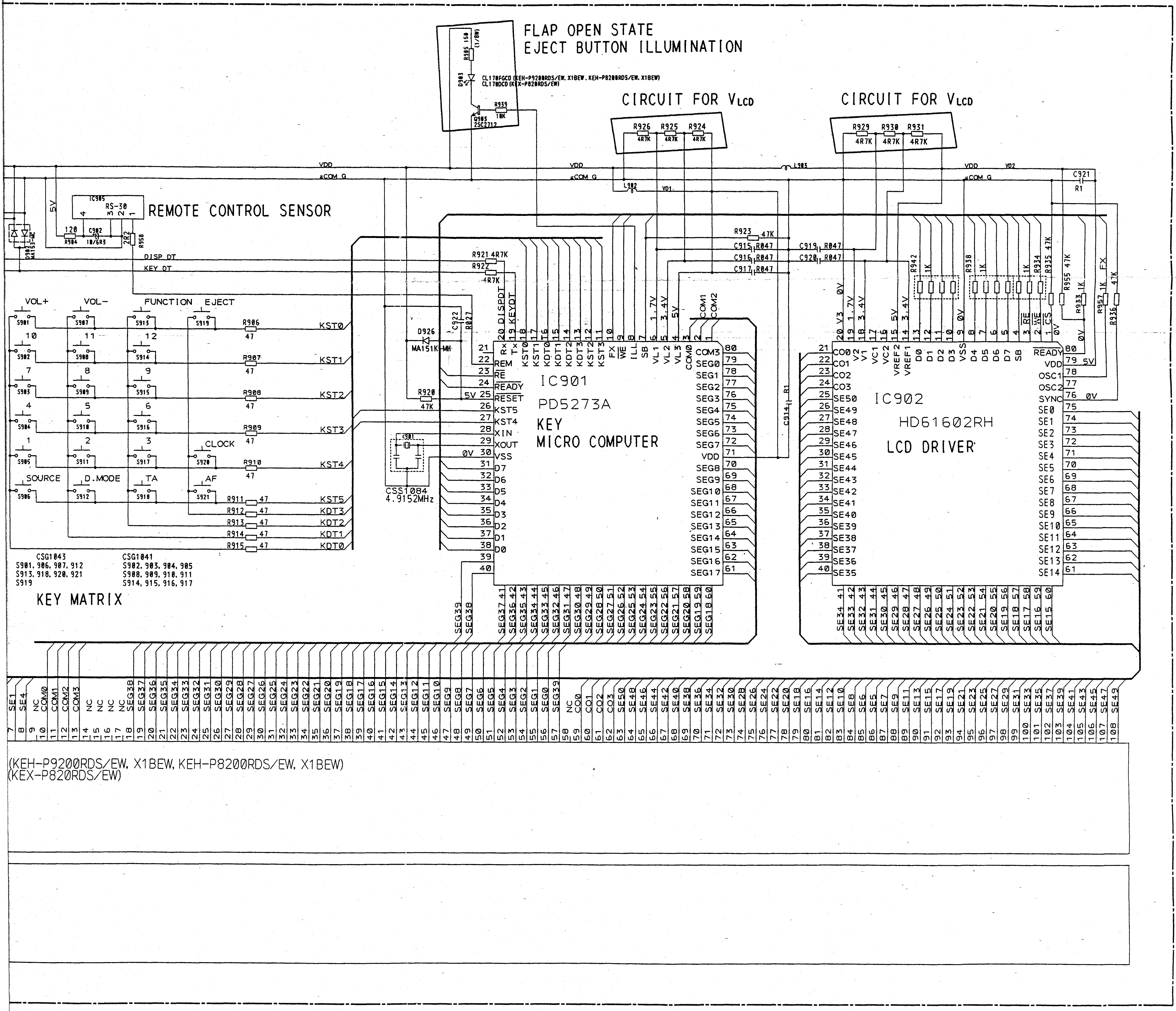
9.4 KEY BOARD UNIT

● Circuit Diagram


KEY BOARD P.C.BOARD
TUNER AMP UNIT
CN603
CN901
8 DISP DT
7 KEY DT
6 SWDVDD
5 DSENS
4 µCOM G
3 ILM
2 ILM G
1 AC+
5V
0V
0V
0V
14V
150Vrms
TP901
TP902
TP903
TP906
TP904
TP905
TP907
TP908
TP909
VDD
5V
R901 (1/2W) 2R2K
R902 (1/2W) 2R2K
L901
C901 10/6R3
D901 MA153-WK
D902 MA153-WK
120
R904
D923
D918
D915
D908
D909
D911
D905
D922
D924
D920
D917
D914
D910
D904
D921
D912
D919
D916
D913
D907
D906
390 (1/4W)
R952
R951
R950
R949
R948
R946
R947
CL170FGCD (KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)
CL170DCD (KEX-P820RDS/EW)
D904-924
BUTTON ILLUMINATION
VOL+
S901
10
S902
7
S903
4
S904
1
S905
SOURCE
S906
S907
S908
8
S909
5
S910
2
S911
D.
S912
CSG1043
S901, 906, 907, 912
S913, 918, 920, 921
S919
KEY MAT
CO2
CO0
CO1
SE3
SE0
SE2
SE1
SE4
NC
COM0
COM1
COM2
COM3
NC
CAW1261 (KEH-P9200RDS
CAW1303 (KEX-P820RDS/
LCD901
EL
CEL1424
CN902

NOTE:

- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.


FLAP OPEN STATE
EJECT BUTTON ILLUMINATION
CIRCUIT FOR VLCD
CIRCUIT FOR VLCD
REMOTE CONTROL SENSOR
IC905
RS-30
KEY MATRIX
VOL+
VOL−
FUNCTION
EJECT
CLOCK
SOURCE
D.MODE
TA
AF
CSG1043
S901, 906, 907, 912
S913, 918, 920, 921
S919
CSG1041
S902, 903, 904, 905
S908, 909, 910, 911
S914, 915, 916, 917
IC901
PD5273A
KEY
MICRO COMPUTER
IC902
HD61602RH
LCD DRIVER
CSS1084
4.9152MHz
D926
MA151K-MH
VDD
μCOM G
DISP DT
KEY DT
KST0
KST1
KST2
KST3
KST4
KST5
KDT3
KDT2
KDT1
KDT0
(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)
(KEX-P820RDS/EW)

istors and

acitors and

Decimal points for resistor
and capacitor fixed values
are expressed as:
2.2→2R2
0.022→R022

KEY BOARD UNIT

Consists of
·KEY BOARD P.C.BOARD
·SWITCH P.C.BOARD

Fig.16

● Connection Diagram

KEY BOARD P.C.BOARD

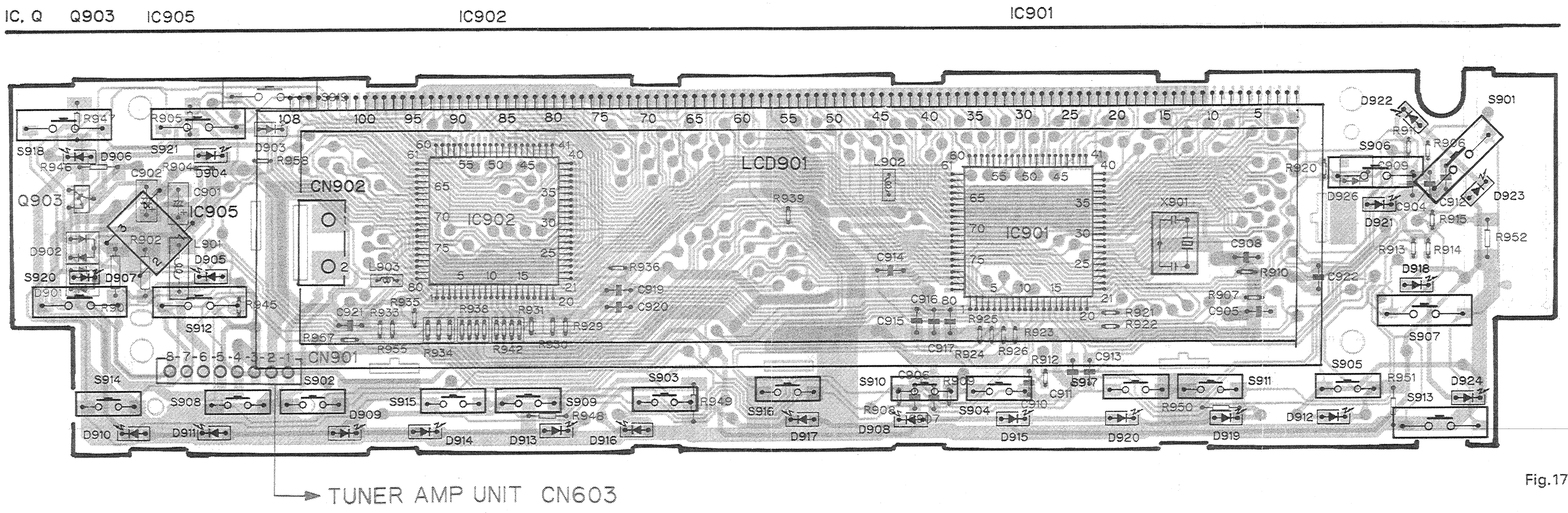

IC, Q
Q903
IC905
IC902
IC901
LCD901
CN902
CN901
8 7 6 5 4 3 2 1
IC905
IC902
IC901
X901
L901
L902
L903
S901
S902
S903
S904
S905
S906
S907
S908
S909
S910
S911
S912
S913
S914
S915
S916
S917
S918
S919
S920
S921
D901
D902
D903
D904
D905
D906
D907
D908
D909
D910
D911
D912
D913
D914
D915
D916
D917
D918
D919
D920
D921
D922
D923
D924
D926
C901
C902
C904
C905
C906
C908
C909
C910
C911
C912
C913
C914
C915
C916
C917
C919
C920
C921
C922
R902
R904
R905
R906
R907
R908
R909
R910
R911
R912
R913
R914
R915
R920
R921
R922
R923
R924
R925
R926
R929
R930
R931
R933
R934
R935
R936
R938
R939
R942
R945
R946
R947
R948
R949
R950
R951
R952
R955
R957
R958
TUNER AMP UNIT CN603

Fig.17

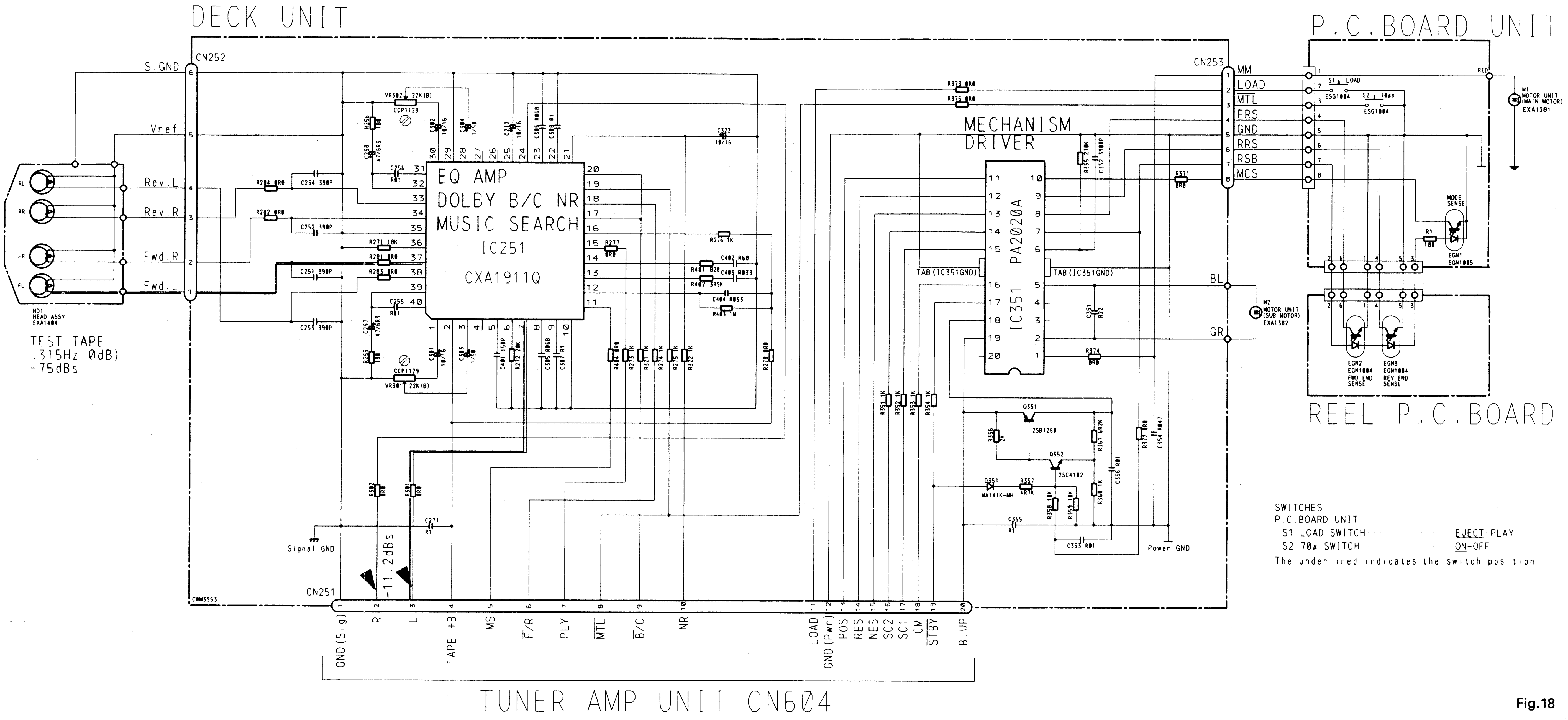
NOTE:

The parts mounted on this PCB include all necessary parts for several destinations.

For further information for respective destinations, be sure to check with the schematic diagram.

9.5 CASSETTE MECHANISM MODULE(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)

● Circuit Diagram


DECK UNIT
CN252
S.GND
Vref
Rev.L
Rev.R
Fwd.R
Fwd.L
RL
RR
FR
FL
HD1
HEAD ASSY
EXA1404
TEST TAPE
(315Hz 0dB)
-75dBs
EQ AMP
DOLBY B/C NR
MUSIC SEARCH
IC251
CXA1911Q
VR302 22K(B)
VR301 22K(B)
CCP1129
R284 0R0
R282 0R0
R281 0R0
R283 0R0
R271 18K
C254 390P
C252 390P
C251 390P
C253 390P
C256 R01
C255 R01
C271 R1
R277
R276 1K
R401 82K
R402 3R9K
R403 1M
C402 R68
C403 R033
C404 R033
R278 0R0
R302 0R0
R301 0R0
-11.2dBs
Signal GND
CN251
CWM3953
MECHANISM
DRIVER
IC351
PA2020A
TAB(IC351GND)
R373 0R0
R375 0R0
R355 270K
C352 390P
R371 0R0
R374 0R0
C351 R22
R351 1K
R352 1K
R353 1K
R354 1K
Q351
2SB1260
Q352
2SC4102
D351
MA141K-MH
R356 2K
R357 4R7K
R358 10K
R359 10K
R360 1K
R361 6R2K
R372 0R0
C354 R047
C355 R1
C353 R01
C356 R01
Power GND
CN253
MM
LOAD
MTL
FRS
GND
RRS
RSB
MCS
BL
GR
M2
MOTOR UNIT
(SUB MOTOR)
EXA1382
M1
MOTOR UNIT
(MAIN MOTOR)
EXA1381
RED
P.C.BOARD UNIT
S1 LOAD
ESG1004
S2 70µs
ESG1004
MODE SENSE
R1 100
EGN1
EGN1005
EGN2
EGN1004
FWD END SENSE
EGN3
EGN1004
REV END SENSE
REEL P.C.BOARD
GND(Sig)
R
L
TAPE +B
MS
F/R
PLY
MTL
B/C
NR
LOAD
GND(Pwr)
POS
RES
NES
SC2
SC1
CM
STBY
B.UP
TUNER AMP UNIT CN604

SWITCHES
P.C.BOARD UNIT
S1 LOAD SWITCH ············ EJECT-PLAY
S2 70µ SWITCH ············ ON-OFF
The underlined indicates the switch position.

Fig.18

● Connection Diagram

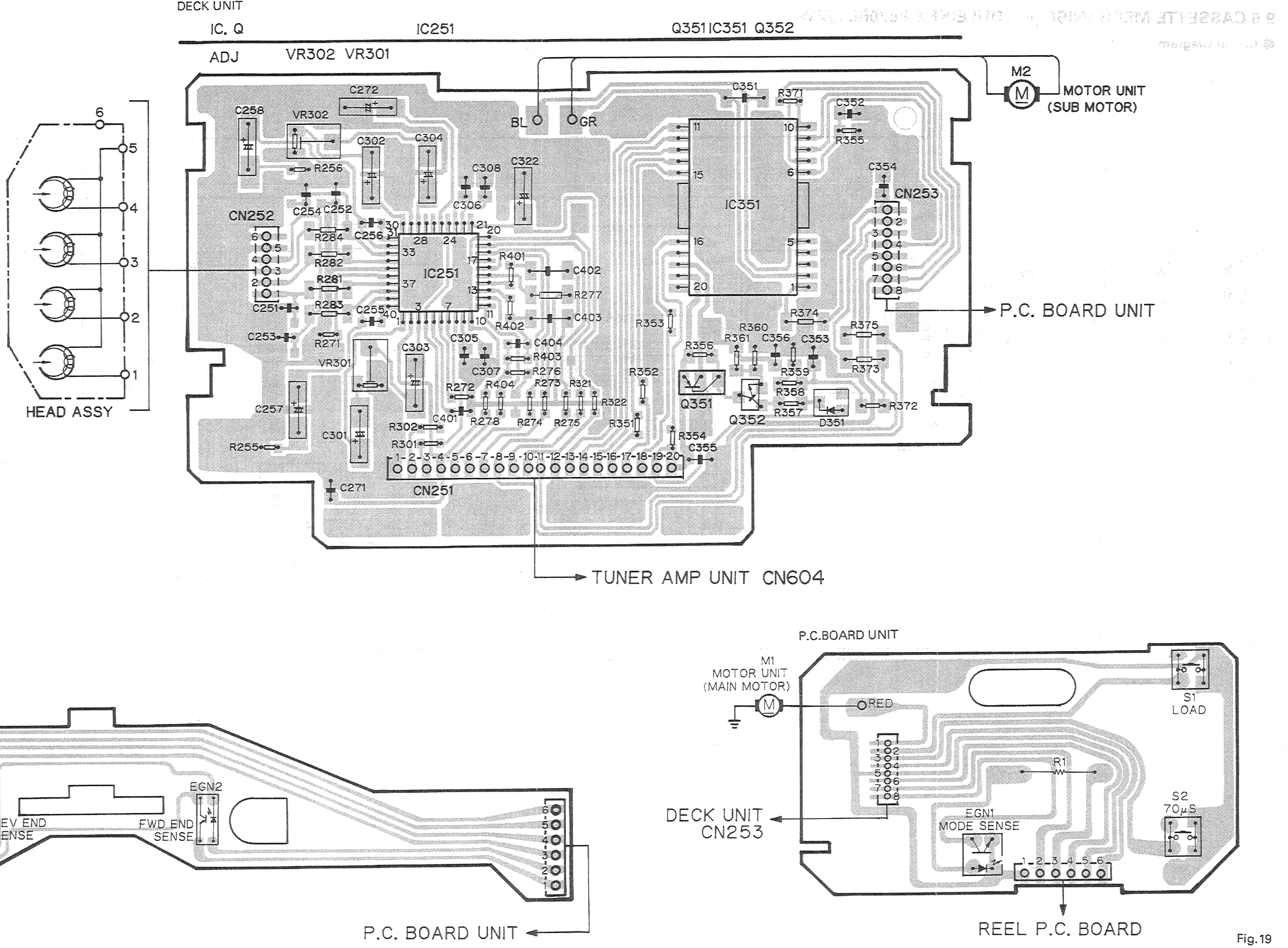
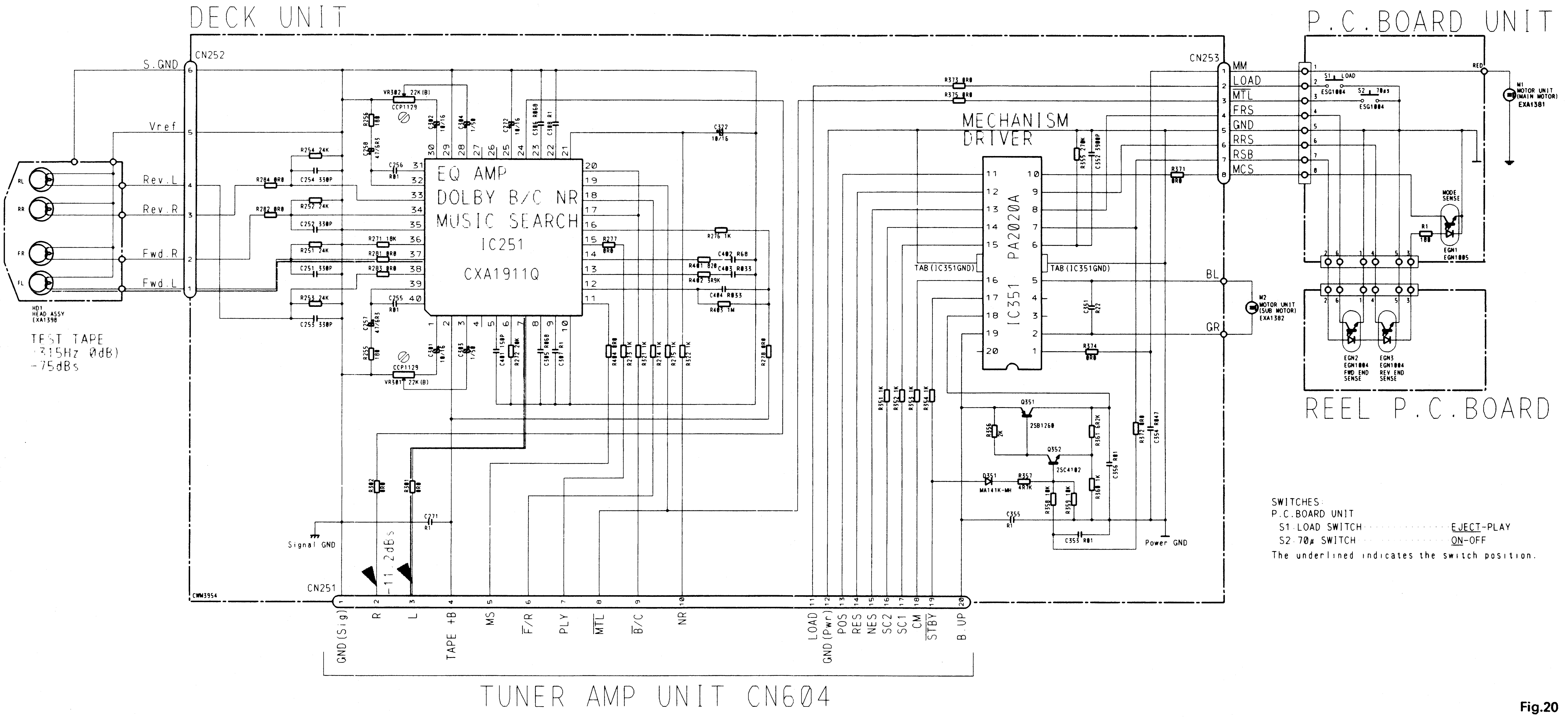

DECK UNIT
IC, Q
IC251
Q351 IC351 Q352
ADJ
VR302 VR301
HEAD ASSY
1
2
3
4
5
6
CN252
C258
VR302
C272
C302
C304
C308
C322
C306
R256
C254
C252
C256
R284
R282
R281
R283
C251
C253
R271
C255
IC251
VR301
C303
C305
C307
C257
C301
R255
C271
R272
R404
R273
R321
R322
R278
R274
R275
C401
R302
R301
R401
C402
R277
R402
C403
C404
R403
R276
CN251
TUNER AMP UNIT CN604
BL
GR
M2
MOTOR UNIT
(SUB MOTOR)
C351
R371
C352
R355
C354
CN253
IC351
P.C. BOARD UNIT
R353
R360
R361
C356
C353
R374
R375
R356
R359
R373
R352
Q351
Q352
R358
R357
D351
R372
R351
R354
C355
P.C.BOARD UNIT
M1
MOTOR UNIT
(MAIN MOTOR)
RED
S1
LOAD
R1
S2
70μS
DECK UNIT
CN253
EGN1
MODE SENSE
REEL P.C. BOARD
REEL P.C.BOARD
EGN3
REV END
SENSE
EGN2
FWD END
SENSE
P.C. BOARD UNIT

Fig.19

9.6 CASSETTE MECHANISM MODULE(KEX-P820RDS/EW)

- **Circuit Diagram**

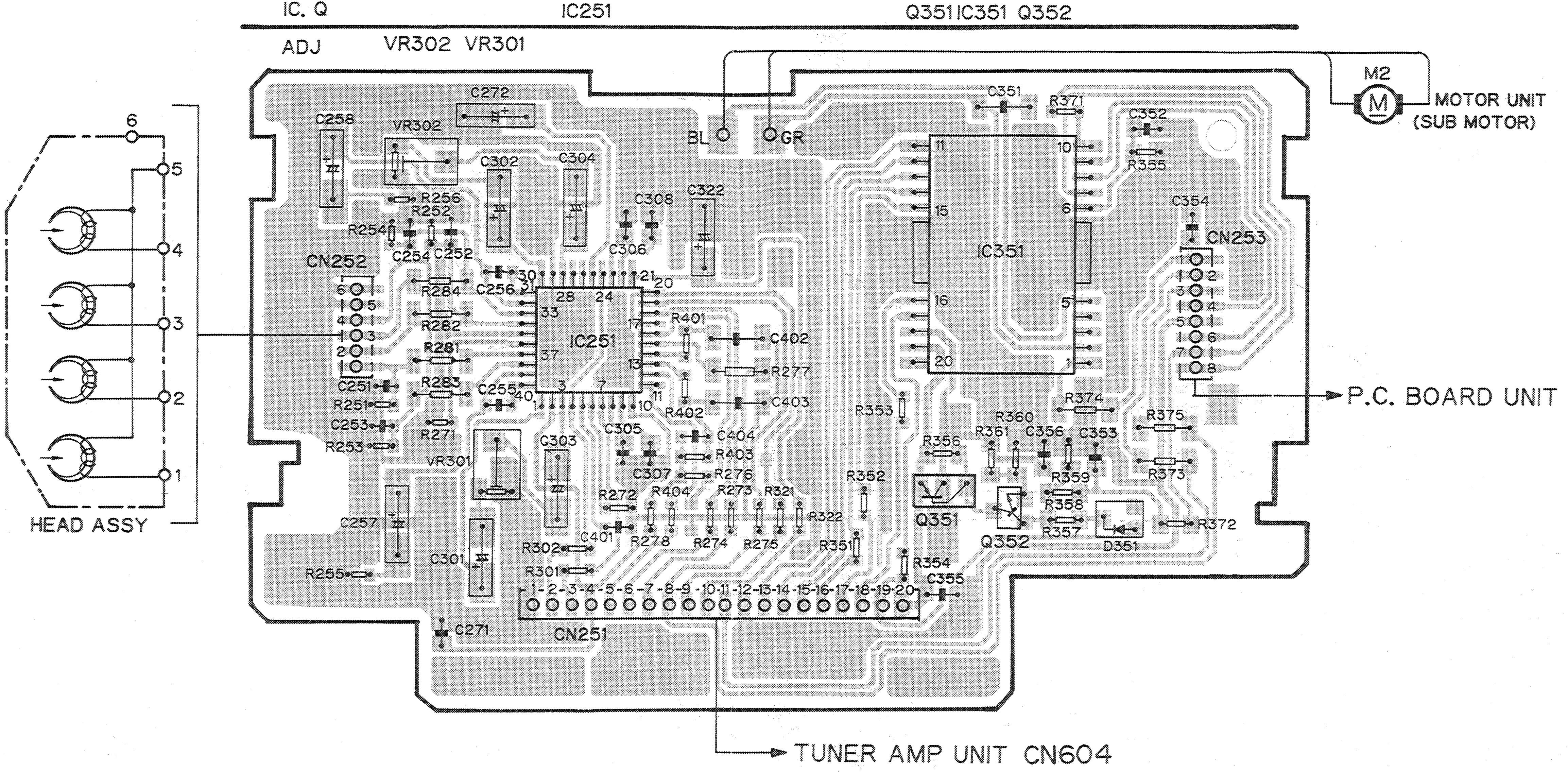

DECK UNIT
CN252
S.GND
Vref
Rev.L
Rev.R
Fwd.R
Fwd.L
RL
RR
FR
FL
HD1
HEAD ASSY
EXA1398
TEST TAPE
(315Hz 0dB)
-75dBs
R254 24K
C254 330P
R284 0R0
R252 24K
R282 0R0
C252 330P
R251 24K
C251 330P
R253 24K
C253 330P
R271 10K
R281 0R0
R283 0R0
VR302 22K(B)
VR301 22K(B)
CCP1129
R256 100
R255 100
C258 47/6R3
C257 47/6R3
C256 R01
C255 R01
C302 10/16
C301 10/16
EQ AMP
DOLBY B/C NR
MUSIC SEARCH
IC251
CXA1911Q
R277
R276 1K
C402 R68
C403 R033
R401 820
R402 3R9K
C404 R033
R403 1M
C322 10/16
C401 150P
C271 R1
R302 0R0
R301 0R0
Signal GND
-11.2dBs
CWM3954
CN251
MECHANISM DRIVER
IC351
PA2020A
TAB(IC351GND)
R373 0R0
R375 0R0
R355 270K
C352 3900P
R371 0R0
C351 R22
R374 0R0
R351 1K
R352 1K
R353 1K
R354 1K
Q351
2SB1260
Q352
2SC4102
R356 2K
R361 6R2K
D351
MA141K-MH
R357 4R7K
R358 10K
R359 10K
R360 1K
C356 R01
C355 R1
C353 R01
R372 0R0
C354 R047
Power GND
CN253
MM
LOAD
MTL
FRS
GND
RRS
RSB
MCS
BL
GR
M2
MOTOR UNIT
(SUB MOTOR)
EXA1382
P.C.BOARD UNIT
S1 LOAD
ESG1004
S2 70µs
ESG1004
RED
M1
MOTOR UNIT
(MAIN MOTOR)
EXA1381
MODE SENSE
R1 100
EGN1
EGN1005
EGN2
EGN1004
FWD END SENSE
EGN3
EGN1004
REV END SENSE
REEL P.C.BOARD
GND(Sig)
R
L
TAPE +B
MS
F/R
PLY
MTL
B/C
NR
LOAD
GND(Pwr)
POS
RES
NES
SC2
SC1
CM
STBY
B.UP
TUNER AMP UNIT CN604

SWITCHES:
P.C.BOARD UNIT
S1: LOAD SWITCH .... EJECT-PLAY
S2: 70µ SWITCH .... ON-OFF
The underlined indicates the switch position.

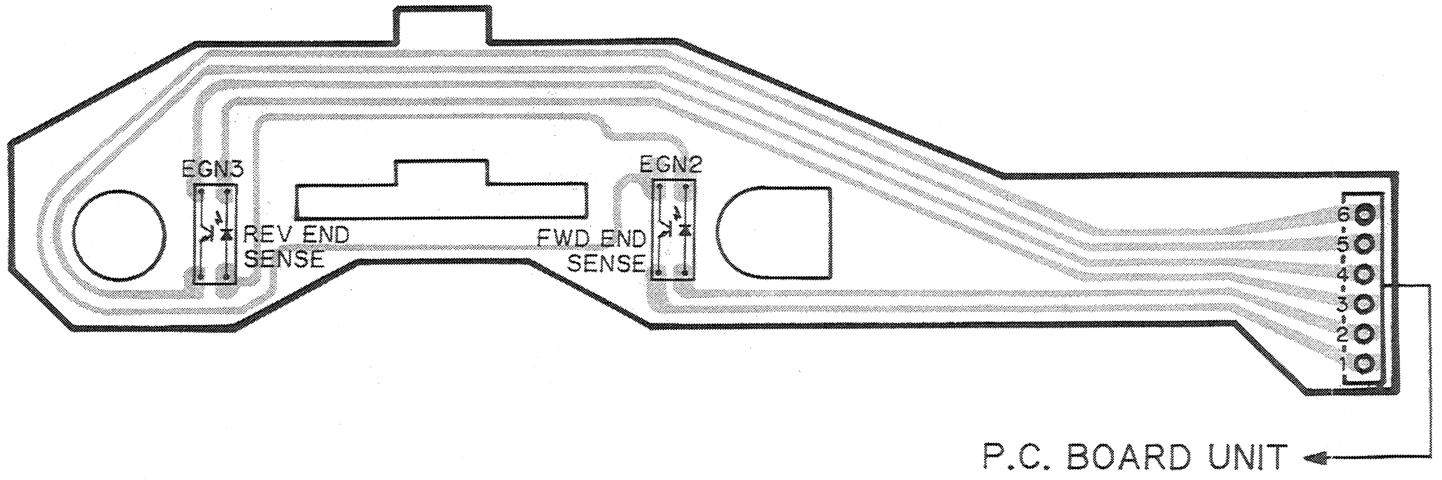
Fig.20

Connection Diagram

DECK UNIT


IC, Q
ADJ
IC251
VR302 VR301
Q351 IC351 Q352
M2
MOTOR UNIT (SUB MOTOR)
BL
GR
HEAD ASSY
6
5
4
3
2
1
CN252
C258
C272
VR302
C302
C304
C308
C322
C306
R256
R252
R254
C254
C252
R284
C256
R282
R281
R283
C251
R251
C253
R253
R271
C255
VR301
C303
C305
C307
C257
C301
R255
R302
R301
C401
R272
R404
R273
R321
R278
R274
R275
R322
IC251
R401
C402
R277
R402
C403
C404
R403
R276
C271
CN251
1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20
C351
R371
C352
R355
IC351
C354
CN253
R353
R352
R351
R354
C355
R374
R360
R361
C356
C353
R375
R356
R359
R373
Q351
Q352
R358
R357
D351
R372
P.C. BOARD UNIT
TUNER AMP UNIT CN604

REEL P.C.BOARD


EGN3
REV END SENSE
EGN2
FWD END SENSE
6
5
4
3
2
1
P.C. BOARD UNIT

P.C.BOARD UNIT

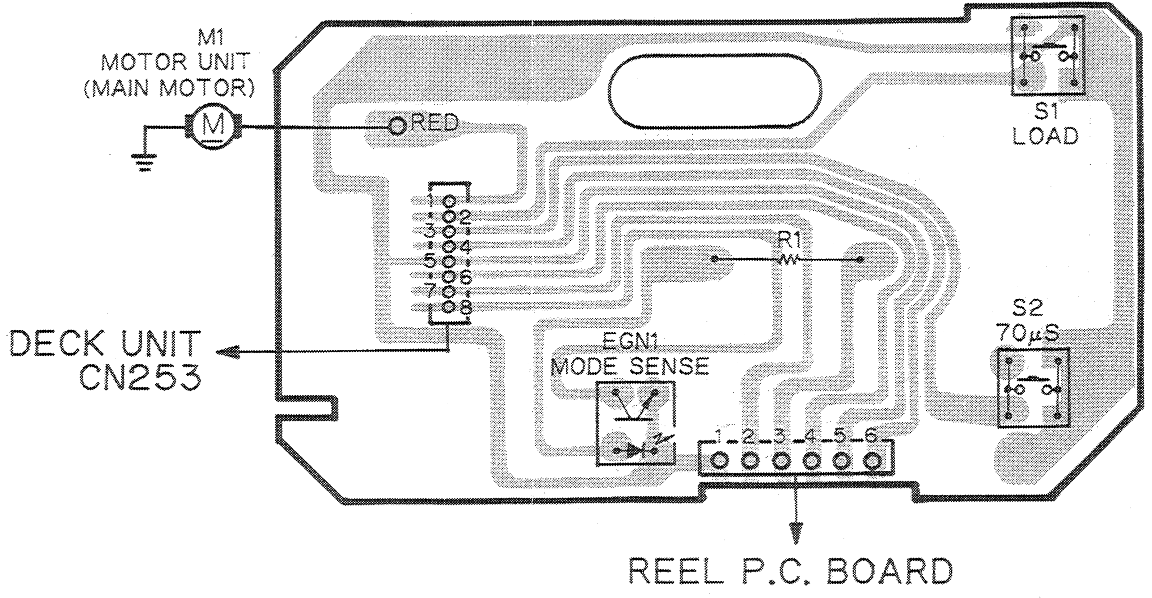
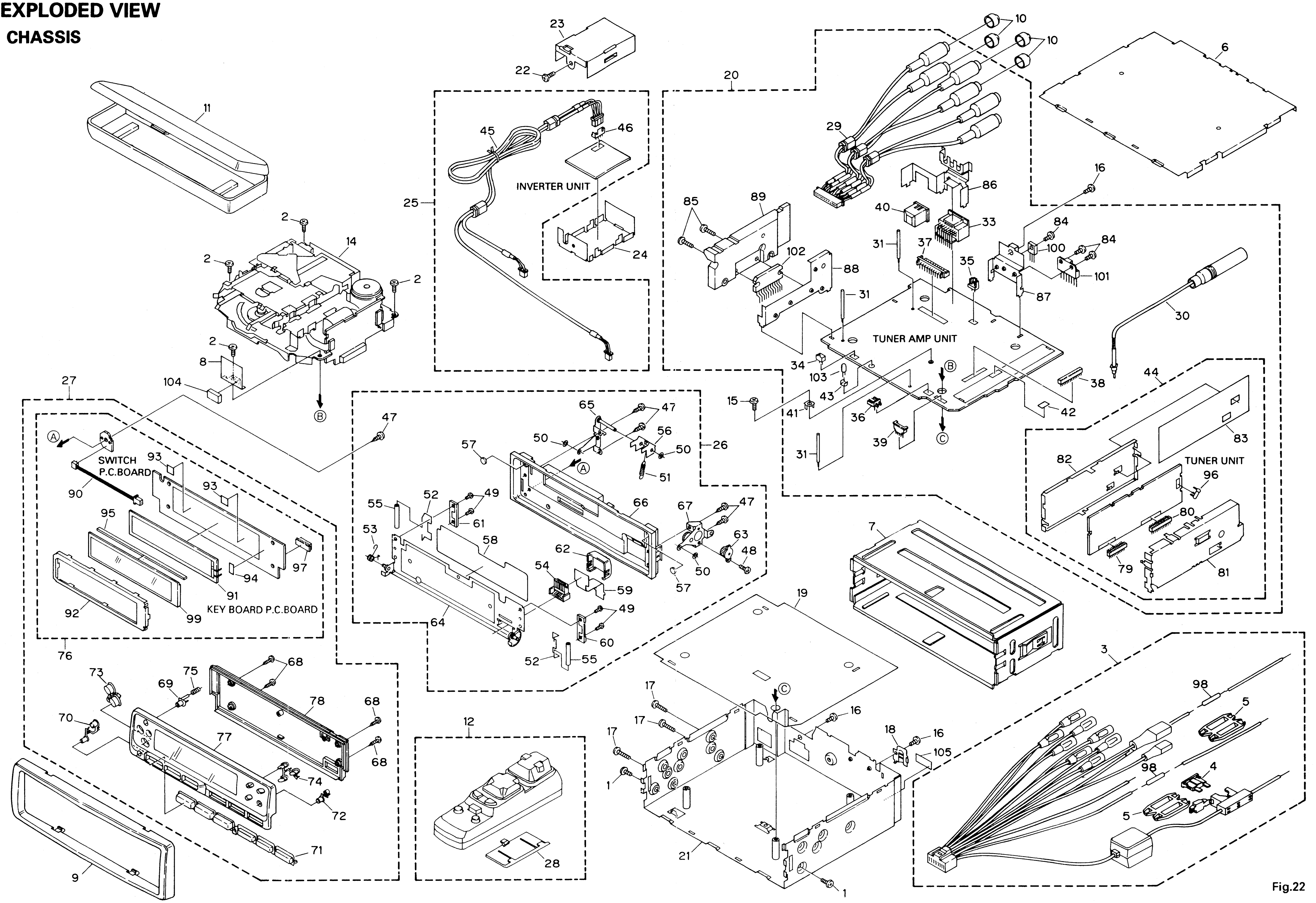

M1
MOTOR UNIT (MAIN MOTOR)
RED
S1 LOAD
R1
S2 70μS
EGN1 MODE SENSE
DECK UNIT CN253
1 2 3 4 5 6
REEL P.C. BOARD

Fig.21

10. EXPLODED VIEW

10.1 CHASSIS


INVERTER UNIT
TUNER AMP UNIT
TUNER UNIT
SWITCH P.C.BOARD
KEY BOARD P.C.BOARD
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Ⓒ
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Fig.22

NOTE:

- Parts marked by "✱"are generally unavailable because they are not in our Master Spare Parts List.
- Parts marked by "◉"are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

● Parts List(KEH-P9200RDS/EW)

Mark	No.	Description	Part No.
	1	Screw	BMZ30P040FMC
	2	Screw	BSZ26P050FMC
	3	Cord Assy	CDE4648
	4	Fuse	CEK1136
	5	Cap	CNS1472
	6	Case	CNB1831
	7	Holder	CNC4946
	8	Holder	CNC5734
	9	Panel	CNS3113
	10	Cap	CNV2680
	11	Case Assy	CXA7194
	12	Remote Control Assy	CXA7607
	13	•••••	
	14	Cassette Mechanism Module	EXK3130
	15	Screw	BSZ30P055FUC
	16	Screw	BSZ30P060FMC
	17	Screw	BSZ30P160FMC
	18	Holder	CNC4963
	19	Insulator	CNM4300
	20	Tuner Amp Unit	CWM4038
	21	Chassis Unit	CXA7163
	22	Screw	BSZ26P050FMC
	23	Holder	CNC5735
	24	Holder	CNC5736
	25	Inverter Unit	CWM4219
	26	Panel Assy	CXA6691
	27	Detach Grille Assy	CXA6701
	28	Cover	CNS3477
	29	Cord	CDE4382
	30	Antenna Cable	CDH1180
	31	Clamper	CEF1005
	32	•••••	
	33	Plug(16P)(CN601)	CKM1187
	34	Plug(2P)(CN605)	CKS-783
	35	Plug(2P)(CN607)	CKS1222
	36	Plug(2P)(CN606)	CKS1236
	37	Plug(12P)(CN801)	CKS1246
	38	Connector(20P)(CN604)	CKS1730
	39	Connector(9P)(CN603)	CKS2239
	40	Connector(11P)(CN602)	CKS2480
	41	Holder	CNC2218
✱	42	Spacer	CNM2158
	43	Holder	CNV1906
	44	Tuner Unit	CWE1356
	45	Cord	CDE4544
	46	Plug(4P)(CN609)	CKS1224
	47	Screw	BPZ20P050FMC
	48	Screw(M2×3)	CBA1077
	49	Screw(M2×3)	CBA1082
	50	Washer	CBF1039
	51	Spring	CBH1395
	52	Spring	CBH1528
	53	Spring	CBH1660
	54	Connector(8P)(CN940)	CKS2780
	55	Roller	CLA2041
	56	Arm	CNC5495
	57	Cushion	CNM2247
	58	Sheet	CNM4179
	59	P.C.Board	CNP3772
	60	Holder	CNV2141
	61	Holder	CNV3964
	62	Cover	CNV3965
	63	Damper Unit	CXA7159
	64	Holder Unit	CXA7958
	65	Holder Unit	CXA7161
	66	Panel Unit	CXA7170
	67	Holder Unit	CXA7793
	68	Screw	BPZ20P080FZK
	69	Button	CAC4062
	70	Button	CAC4064
	71	Button	CAC4065
	72	Button	CAC4066
	73	Button	CAC4381
	74	Button	CAC4382
	75	Spring	CBH1661
	76	Key Board Unit	CWM4046
	77	Grille Unit	CXA7166
	78	Cover Unit	CXA7172
	79	Plug(11P)(CN2)	CKS1619
	80	Plug(12P)(CN1)	CKS1620
	81	Holder	CNC5358
	82	Holder	CNC5432
	83	Insulator	CNM4046
	84	Screw	BSZ30P080FMC
	85	Screw	BSZ30P120FMC
	86	Holder	CNC5490
	87	Holder	CNC5491
	88	Holder	CNC5530
	89	Heat Sink	CNR1342
	90	Cord	CDE4387
	91	EL	CEL1424
	92	Holder	CNC5497
	93	Film	CNM4349
	94	Spacer	CNM4359
	95	Rubber	CNV3967
	96	Antenna Jack(ANT1)	CKX1010
	97	Connector(8P)(CN901)	CKS2733
	98	Resistor	RS1/2P102JL
	99	LCD(LCD901)	CAW1261
	100	Transistor(Q601)	2SD1189
	101	IC(IC604)	PA2024A
	102	IC(IC551)	PAL003A
	103	Lamp(IL601)	CEL1263
	104	Cushion	CNM2657
	105	•••••	

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P9200RD

Mark No

Mark No

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Mark No

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2218
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660
780
041
5495
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4179
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3964
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7958
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7793
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062
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Mark	No.	Description	Part No.
	81	Holder	CNC5358
	82	Holder	CNC5432
	83	Insulator	CNM4046
	84	Screw	BSZ30P080FMC
	85	Screw	BSZ30P120FMC
	86	Holder	CNC5490
	87	Holder	CNC5491
	88	Holder	CNC5530
	89	Heat Sink	CNR1342
	90	Cord	CDE4387
	91	EL	CEL1424
	92	Holder	CNC5497
	93	Film	CNM4349
	94	Spacer	CNM4359
	95	Rubber	CNV3967
	96	Antenna Jack(ANT1)	CKX1010
	97	Connector(8P)(CN901)	CKS2733
	98	Resistor	RS1/2P102JL
	99	LCD(LCD901)	CAW1261
	100	Transistor(Q601)	2SD1189
	101	IC(IC604)	PA2024A
	102	IC(IC551)	PAL003A
	103	Lamp(IL601)	CEL1263
	104	Cushion	CNM2657
	105	•••••	

- The KEH-P9200RDS/X1BEW, KEH-P8200RDS/EW, X1BEW and KEX-P820RDS/EW Parts Lists enumerate the parts which differ from those enumerated in the KEH-P9200RDS/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-P9200RDS/EW Parts List is given on page 65.

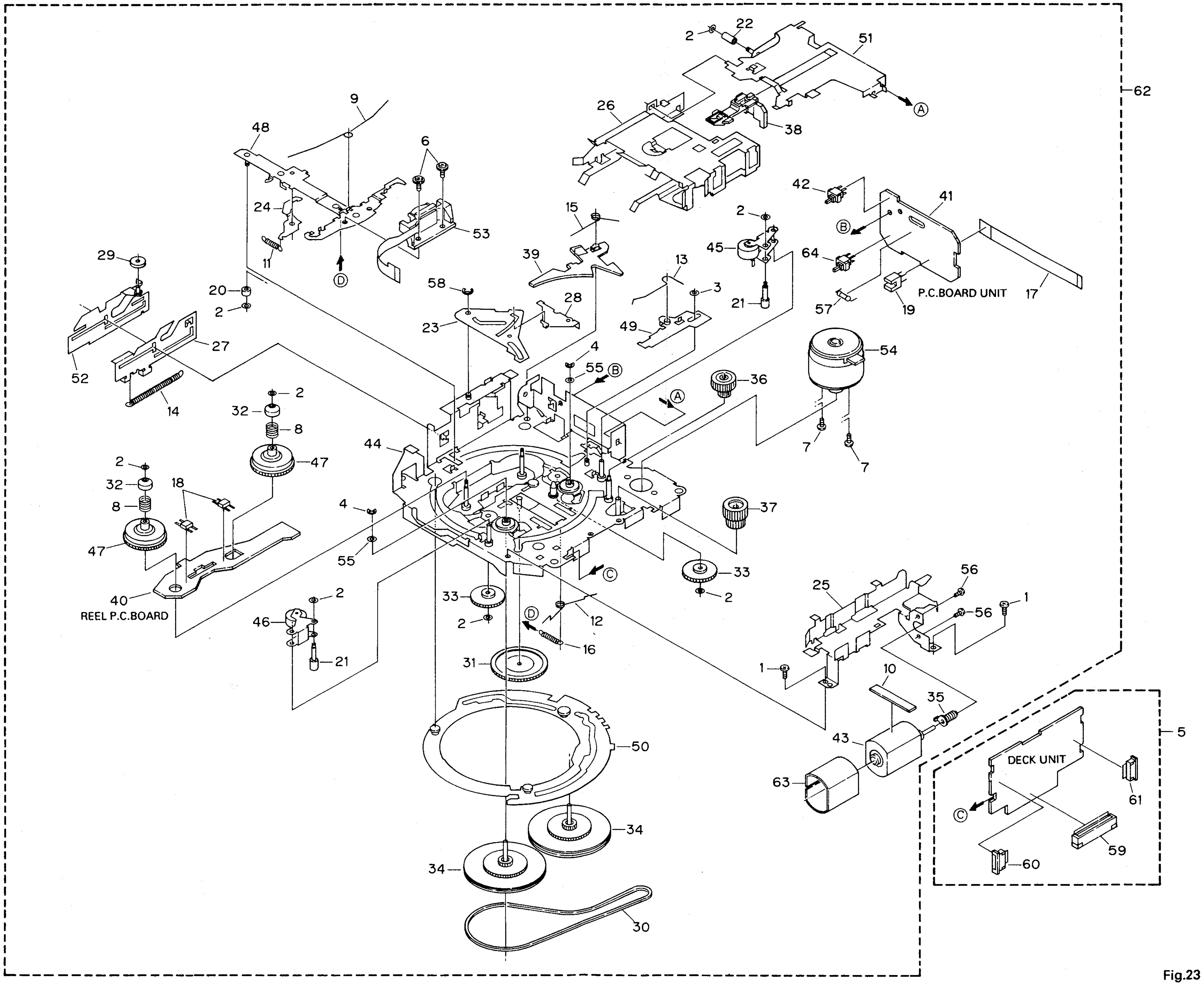
	KEH-P9200RDS/EW	KEH-P8200RDS/EW
Mark No. Description	Part No.	Part No.
10 Cap	CNV2680	•••••
12 Remote Control Assy	CXA7607	CXA7608
20 Tuner Amp Unit	CWM4038	CWM4042
21 Chassis Unit	CXA7163	CXA7443
27 Detach Grille Assy	CXA6701	CXA6706
29 Cord	CDE4382	CDE4383
44 Tuner Unit	CWE1356	CWE1357
77 Grille Unit	CXA7166	CXA7574
79 Plug	CKS1619(11P)(CN2)	CKS1607(10P)(CN2)
105 Insulator	•••••	CNM4445

	KEH-P9200RDS/EW	KEX-P820RDS/EW
Mark No. Description	Part No.	Part No.
3 Cord Assy	CDE4648	CDE4650
4 Fuse	CEK1136	CEK1001
9 Panel	CNS3113	CNS3399
10 Cap	CNV2680	•••••
12 Remote Control Assy	CXA7607	CXA7609
14 Cassette Mechanism Module	EXK3130	EXK3170
17 Screw	BSZ30P160FMC	•••••
20 Tuner Amp Unit	CWM4038	CWM4279
21 Chassis Unit	CXA7163	CXA7444
26 Panel Assy	CXA6691	CXA6694
27 Detach Grille Assy	CXA6701	CXA6696
28 Cover	CNS3477	CNS3476
29 Cord	CDE4382	CDE4545
44 Tuner Unit	CWE1356	CWE1357
66 Panel Unit	CXA7170	CXA7445
71 Button	CAC4065	CAC4253
76 Key Board Unit	CWM4046	CWM4050
77 Grille Unit	CXA7166	CXA7578
78 Cover Unit	CXA7172	CXA7446
79 Plug	CKS1619(11P)(CN2)	CKS1607(10P)(CN2)
85 Screw	BSZ30P120FMC	•••••
88 Holder	CNC5530	•••••
89 Heat Sink	CNR1342	•••••
99 LCD(LCD901)	CAW1261	CAW1303
102 IC(IC551)	PAL003A	•••••
105 Insulator	•••••	CNM4445

	KEH-P9200RDS/EW	KEH-P9200RDS/X1BEW
Mark No. Description	Part No.	Part No.
3 Cord Assy	CDE4648	UDE4648

	KEH-P8200RDS/EW	KEH-P8200RDS/X1BEW
Mark No. Description	Part No.	Part No.
3 Cord Assy	CDE4648	UDE4648

10.2 CASSETTE MECHANISM MODULE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P.C.BOARD UNIT
REEL P.C.BOARD
DECK UNIT

Fig.23

● **Parts List(KE**

Mark	No.	Descr
	1	Screw
	2	Wash
	3	Wash
	4	Wash
	5	Deck
	6	Screw
	7	Screw
	8	Sprin
	9	Sprin
	10	Cushi
	11	Sprin
	12	Sprin
	13	Sprin
	14	Sprin
	15	Sprin
	16	Sprin
	17	Cord
	18	Photo
	19	Photo
	20	Roller
	21	Shaft
	22	Roller
	23	Arm
	24	Arm
	25	Guide
	26	Holde
	27	Lever
	28	Arm
	29	Roller
	30	Belt
	31	Gear
	32	Collar
	33	Gear
	34	Flywh
	35	Worm

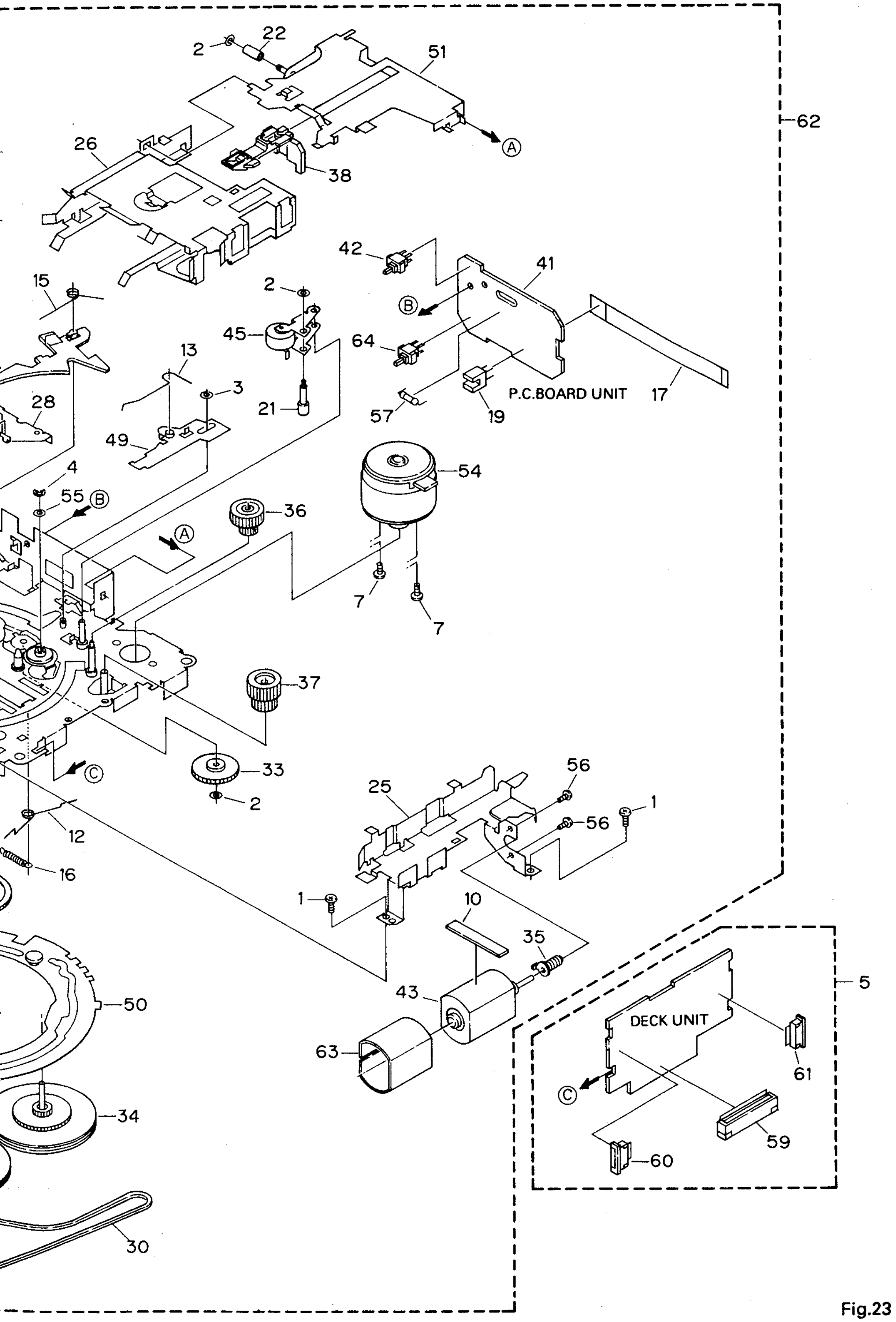

Fig.23

A

B

C

D

● Parts List(KEH-P9200RDS/EW, X1BEW, KEH-P8200RDS/EW, X1BEW)

Mark	No.	Description	Part No.
	1	Screw	BSZ20P040FMC
	2	Washer	CBF1037
	3	Washer	CBF1038
	4	Washer	CBG1003
	5	Deck Unit	CWM3953
	6	Screw	EBA1028
	7	Screw	EBA1037
	8	Spring	EBH1531
	9	Spring	EBH1512
	10	Cushion	ENM1034
	11	Spring	EBH1515
	12	Spring	EBH1516
	13	Spring	EBH1517
	14	Spring	EBH1518
	15	Spring	EBH1519
	16	Spring	EBH1537
	17	Cord	EDD1015
	18	Photo-reflector(EGN2,3)	EGN1004
	19	Photo-interrupter(EGN1)	EGN1005
	20	Roller	ELA1283
	21	Shaft	ELA1347
	22	Roller	ELA1348
	23	Arm	ENC1396
	24	Arm	ENC1397
	25	Guide	ENC1398
	26	Holder	ENC1399
	27	Lever	ENC1400
	28	Arm	ENC1401
	29	Roller	ENR1027
	30	Belt	ENT1027
	31	Gear	ENV1347
	32	Collar	ENV1349
	33	Gear	ENV1350
	34	Flywheel	ENV1410
	35	Worm Gear	ENV1439
	36	Worm Wheel	ENV1440
	37	Gear	ENR1028
	38	Lever	ENV1442
	39	Arm	ENV1445
	40	Gathering P.C.Board	ENX1029
	41	Gathering P.C.Board	ENX1030
	42	Switch(S1)	ESG1004
	43	Motor Unit(M2)	EXA1382
	44	Chassis Unit	EXA1383
	45	Pinch Holder Unit	EXA1384
	46	Pinch Holder Unit	EXA1385
	47	Reel Unit	EXA1386
	48	Head Base Unit	EXA1387
	49	Lever Unit	EXA1388
	50	Gear Unit	EXA1389
	51	Frame Unit	EXA1390
	52	Lever Unit	EXA1391
	53	Head Assy(HD1)	EXA1404
	54	Motor Unit(M1)	EXA1381
	55	Washer	HBF-179
	56	Screw	JGZ20P025FNI
	57	Resistor(R1)	RD1/4HM181J
	58	Washer	YE20FUC
	59	Connector(CN251)	CKS1711
	60	Connector(CN252)	CKS2127
	61	Connector(CN253)	CKS2129
	62	Spare Unit	EXA3003
	63	Shield	ENC1410
	64	Switch(S2)	ESG1004

- **Parts List(KEX-P820RDS/EW)**

Mark	No.	Description	Part No.
	1	Screw	BSZ20P040FMC
	2	Washer	CBF1037
	3	Washer	CBF1038
	4	Washer	CBG1003
	5	Deck Unit	CWM3954
	6	Screw	EBA1028
	7	Screw	EBA1037
	8	Spring	EBH1531
	9	Spring	EBH1512
	10	Cushion	ENM1034
	11	Spring	EBH1515
	12	Spring	EBH1516
	13	Spring	EBH1517
	14	Spring	EBH1518
	15	Spring	EBH1519
	16	Spring	EBH1537
	17	Cord	EDD1015
	18	Photo-reflector(EGN2,3)	EGN1004
	19	Photo-interrupter(EGN1)	EGN1005
	20	Roller	ELA1283
	21	Shaft	ELA1347
	22	Roller	ELA1348
	23	Arm	ENC1396
	24	Arm	ENC1397
	25	Guide	ENC1398
	26	Holder	ENC1399
	27	Lever	ENC1400
	28	Arm	ENC1401
	29	Roller	ENR1027
	30	Belt	ENT1027
	31	Gear	ENV1347
	32	Collar	ENV1349
	33	Gear	ENV1350
	34	Flywheel	ENV1410
	35	Worm Gear	ENV1439
	36	Worm Wheel	ENV1440
	37	Gear	ENR1028
	38	Lever	ENV1442
	39	Arm	ENV1445
	40	Gathering P.C.Board	ENX1029
	41	Gathering P.C.Board	ENX1030
	42	Switch(S1)	ESG1004
	43	Motor Unit(M2)	EXA1382
	44	Chassis Unit	EXA1383
	45	Pinch Holder Unit	EXA1384
	46	Pinch Holder Unit	EXA1385
	47	Reel Unit	EXA1386
	48	Head Base Unit	EXA1387
	49	Lever Unit	EXA1388
	50	Gear Unit	EXA1389
	51	Frame Unit	EXA1390
	52	Lever Unit	EXA1391
	53	Head Assy(HD1)	EXA1398
	54	Motor Unit(M1)	EXA1381
	55	Washer	HBF-179
	56	Screw	JGZ20P025FNI
	57	Resistor(R1)	RD1/4HM181J
	58	Washer	YE20FUC
	59	Connector(CN251)	CKS1711
	60	Connector(CN252)	CKS2127
	61	Connector(CN253)	CKS2129
	62	Spare Unit	EXA3002
	63	Shield	ENC1410
	64	Switch(S2)	ESG1004

11. PACKING METHOD

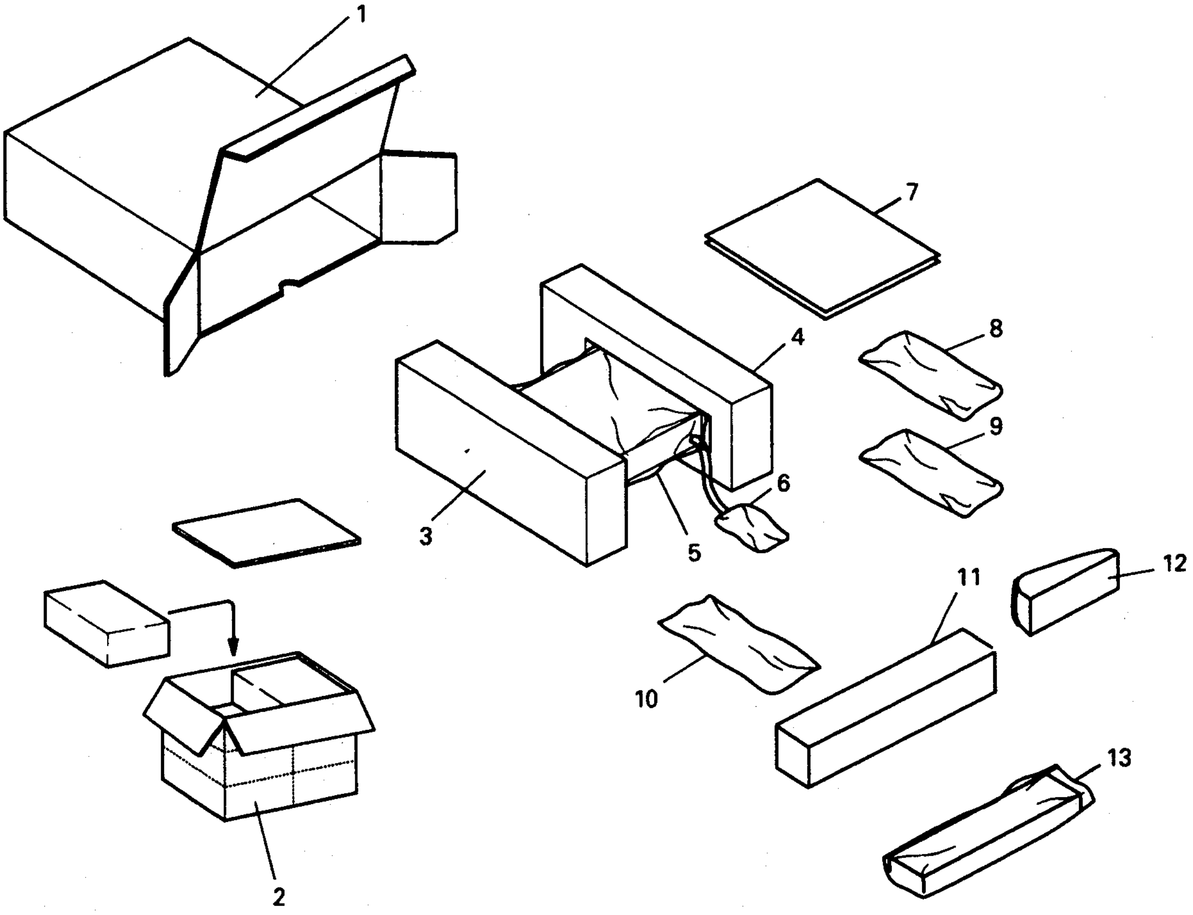

Fig.24

● **Parts List(KEH-P9200RDS/EW)**

✱ : Non Spare Part

Mark	No.	Description	Part No.
	1	Carton	CHG2575
	2	Contain Box	CHL2575
	3	Protector	CHP1688
	4	Protector	CHP1687
	5	Cover	CEG1092
	6	Air Cushioned Bag	CEG1192
	7-1	Owner's Manual	CRD1809
	7-2	Owner's Manual	CRD1810
	7-3	Installation Manual	CRD1812
	7-4	Installation Manual	CRD1880
✱	7-5	Passport	CRY1013
✱	7-6	Warranty Card	CRY1071
	8	Accessory Assy	CEA2065
	9	Accessory Assy	CEA2081
	10	Cord Assy	CDE4648
	11	Spacer	CHW1433
	12	Remote Control Assy	CXA7607
	13	Case Assy	CXA7194

- The KEH-P9200RDS/X1BEW, KEH-P8200RDS/EW, X1BEW and KEX-P820RDS/EW Parts Lists enumerate the parts which differ from those enumerated in the KEH-P9200RDS/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-P9200RDS/EW Parts List is given on page 72.

	KEH-P9200RDS/EW	KEH-P8200RDS/EW	KEX-P820RDS/EW
Mark No. Description	Part No.	Part No.	Part No.
1 Carton	CHG2575	CHG2595	CHG2598
2 Contain Box	CHL2575	CHL2595	CHL2598
7-3 Installation Manual	CRD1812	CRD1881	CRD1816
7-4 Installation Manual	CRD1880	CRD1882	CRD1883
10 Cord Assy	CDE4648	CDE4648	CDE4650
12 Remote Control Assy	CXA7607	CXA7608	CXA7609

	KEH-P9200RDS/EW	KEH-P9200RDS/X1BEW	KEH-P8200RDS/X1BEW
Mark No. Description	Part No.	Part No.	Part No.
1 Carton	CHG2575	UHG2575	UHG2595
2 Contain Box	CHL2575	UHD-002	UHD-002
3 Protector	CHP1688	UHP-009	UHP-009
4 Protector	CHP1687	•••••	•••••
5 Cover	CEG1092	•••••	•••••
Polyethylene Bag	•••••	UEG-002	UEG-002
7-1 Owner's Manual	CRD1809	URD1809	URD1809
7-2 Owner's Manual	CRD1810	•••••	•••••
7-3 Installation Manual	CRD1812	URD1812	URD1881
7-4 Installation Manual	CRD1880	•••••	•••••
* 7-5 Passport	CRY1013	CRY1014	CRY1014
* 7-6 Warranty Card	CRY1071	•••••	•••••
* Card	•••••	URY-001	URY-001
8 Accessory Assy	CEA2065	UEA2065	UEA2065
9 Accessory Assy	CEA2081	UEA2081	UEA2081
10 Cord Assy	CDE4648	UDE4648	UDE4648
11 Spacer	CHW1433	•••••	•••••
12 Remote Control Assy	CXA7607	CXA7607	CXA7608
Air Cushioned Bag	•••••	UEG-007	UEG-007

- **Owner's Manual**
- **Installation Manual**

Model	Part No.	Language
KEH-P9200RDS/EW KEH-P8200RDS/EW KEX-P820RDS/EW	CRD1809	English, Italian, French, German, Dutch, Spanish
	CRD1810	Finnish, Norwegian, Swedish
KEH-P9200RDS/EW	CRD1812	English, Italian, French, German, Dutch, Spanish
	CRD1880	Finnish, Norwegian, Swedish
KEH-P8200RDS/EW	CRD1881	English, Italian, French, German, Dutch, Spanish
	CRD1882	Finnish, Norwegian, Swedish
KEX-P820RDS/EW	CRD1816	English, Italian, French, German, Dutch, Spanish
	CRD1883	Finnish, Norwegian, Swedish
KEH-P9200RDS/X1BEW KEH-P8200RDS/X1BEW	URD1809	English, Italian, French, German, Dutch, Spanish
KEH-P9200RDS/X1BEW	URD1812	English, Italian, French, German, Dutch, Spanish
KEH-P8200RDS/X1BEW	URD1881	English, Italian, French, German, Dutch, Spanish

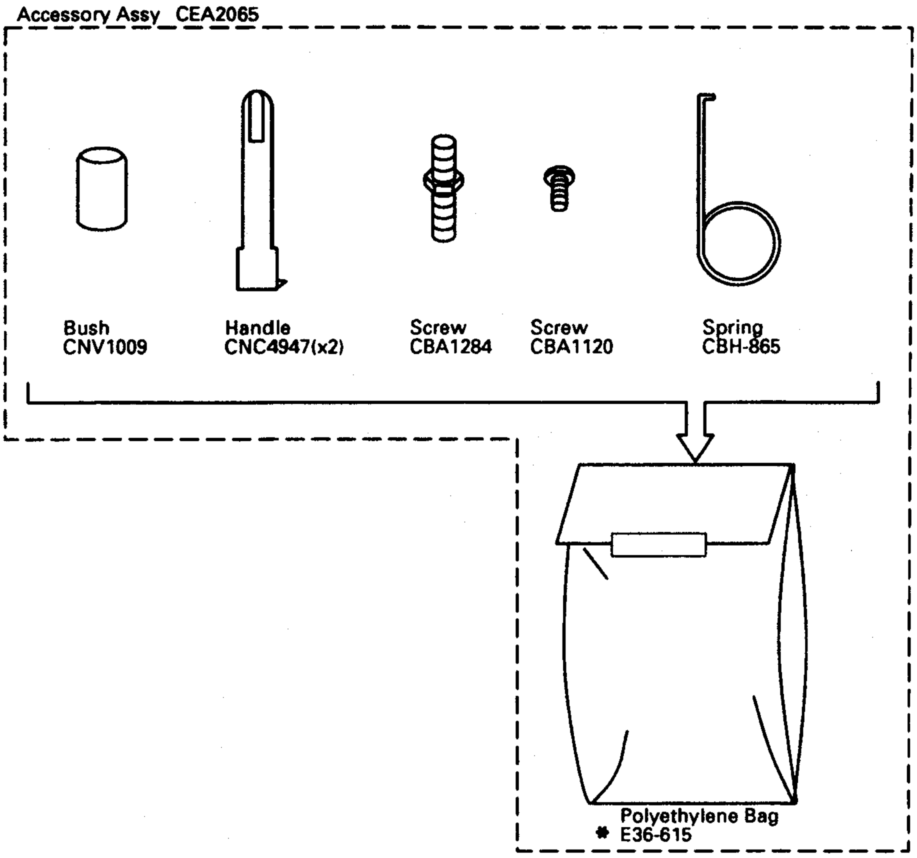
Accessory Assy CEA2065
Bush
CNV1009
Handle
CNC4947(x2)
Screw
CBA1284
Screw
CBA1120
Spring
CBH-865
Polyethylene Bag
* E36-615

Fig.25

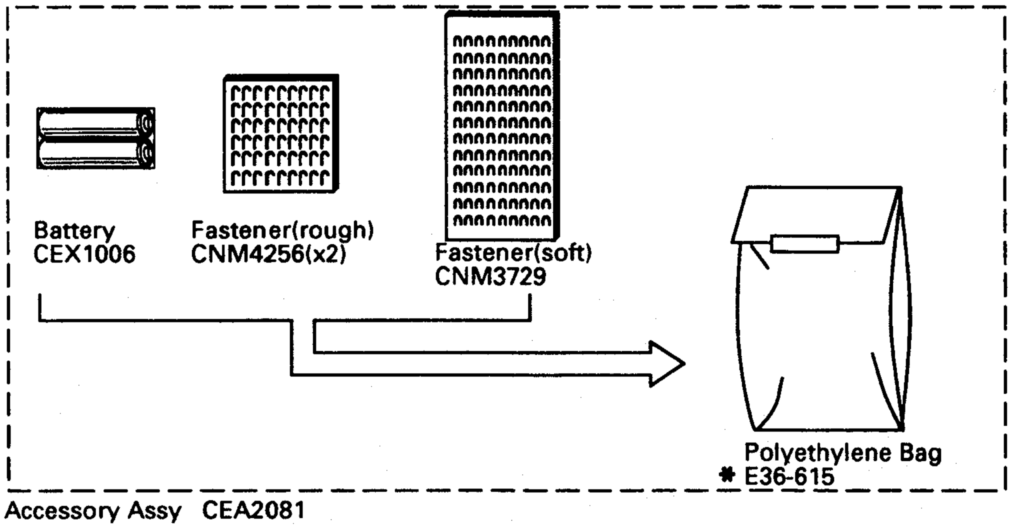
Battery
CEX1006
Fastener(rough)
CNM4256(x2)
Fastener(soft)
CNM3729
Polyethylene Bag
* E36-615
Accessory Assy CEA2081

Fig.26

12. SPECIFICATIONS

General

Power source	14.4 V DC (10.8 — 15.6 V allowable)
Grounding system	Negative type
Max. current consumption	
(KEH-P9200RDS, KEH-P8200RDS)	8.0 A
(KEX-P820RDS)	1.0 A
Dimensions (chassis)	178 (W) × 50 (H) × 150 (D) mm
(front face)	188 (W) × 58 (H) × 16 (D) mm
Weight	
(KEH-P9200RDS, KEH-P8200RDS)	1.4 kg
(KEX-P820RDS)	1.2 kg

Amplifier (KEH-P9200RDS, KEH-P8200RDS)

Maximum power output	35 W × 4 (EIAJ)
Continuous power output	22 W × 4 (DIN45324, +B = 14.4 V)
Load impedance	4 Ω (4 — 8 Ω allowable)
Preout output level/output impedance	500 mV/ 1 kΩ
Tone controls (bass)	±12 dB (100 Hz)
(treble)	±12 dB (10 kHz)
Loudness contour	+10 dB (100 Hz), +7 dB (10 kHz) (Volume: –30 dB)

Amplifier (KEX-P820RDS)

Preout output level/output impedance	500 mV/ 1 kΩ
Tone controls (bass)	±12 dB (100 Hz)
(treble)	±12 dB (10 kHz)
Loudness contour	+10 dB (100Hz), +7 dB (10 kHz) (Volume: –30 dB)

Subwoofer

Crossover frequency	50 Hz/ 80 Hz/ 125 Hz
Crossover slope	–12 dB/oct

Tape player

Tape	Compact cassette tape (C-30 — C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., -0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.09 % (WRMS)
Frequency response	
(KEH-P9200RDS, KEH-P8200RDS)	Metal: 30 — 19,000 Hz (±3 dB)
(KEX-P820RDS)	Metal: 25 — 22,000 Hz (±3 dB)
Stereo separation	
(KEH-P9200RDS, KEH-P8200RDS)	45 dB
(KEX-P820RDS)	50 dB
Signal-to-noise ratio	Metal:Dolby C NR IN: 73 dB (IEC-A network)
Metal:Dolby B NR IN: 67 dB (IEC-A network)	
Metal:Dolby NR OUT: 61 dB (IEC-A network)	

FM tuner (KEH-P9200RDS)

Frequency range	87.5 — 108 MHz
Usable sensitivity	DYNAS ON: 7 dBf *(0.7 µV/ 75 Ω, mono, S/N: 30 dB)*
50 dB quieting sensitivity	DYNAS ON: 13 dBf (1.2 µV/ 75 Ω, mono)
Signal-to-noise ratio	DYNAS ON: 67 d network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	25 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

FM tuner (KEH-P8200RDS, KEX-P820RDS)

Frequency range	87.5 — 108 MHz
Usable sensitivity	8 dBf (0.7 µV/ 75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	13 dBf (1.2 µV/ 75 Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	25 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range	531 — 1,602 kHz
Usable sensitivity	18 µV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

LW tuner

Frequency range	153 — 281 kHz
Usable sensitivity	30 µV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

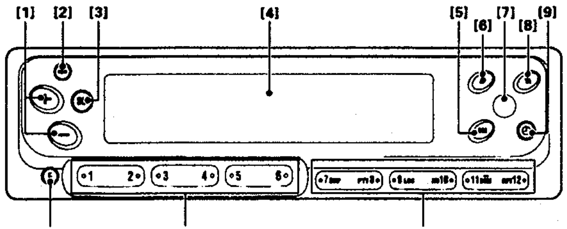
[1]
[2]
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Fig. 27

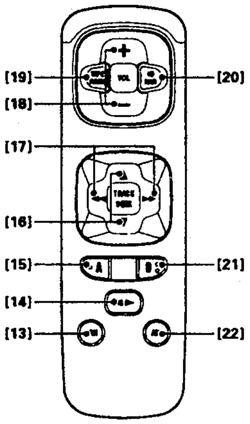
[13]
[14]
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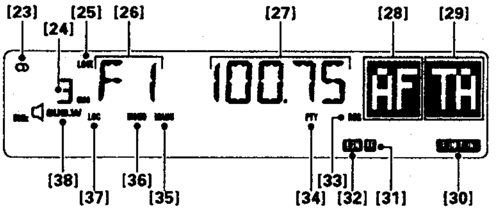
Fig. 28


[23]
[24]
[25]
[26]
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[28]
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[30]
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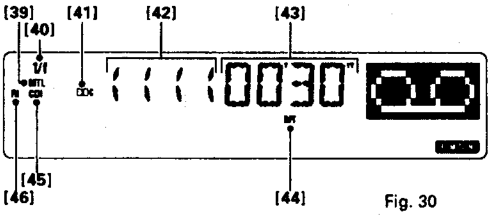
[33]
[34]
[35]
[36]
[37]
[38]
F1
100.75
AF
TA

Fig. 29


[39]
[40]
[41]
[42]
[43]
[44]
[45]
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0030

Fig. 30

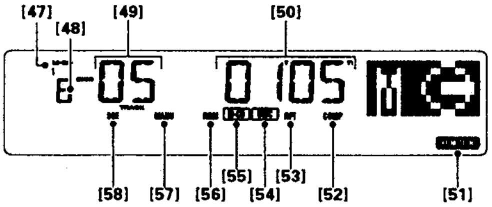

[47]
[48]
[49]
[50]
[51]
[52]
[53]
[54]
[55]
[56]
[57]
[58]
-05
0105

Fig. 31

Precautions

Organization of this Manual

This is the Owner's Manual for the KEH-P9200RDS, KEH-P8200RDS, and KEX-P820RDS.
The KEH-P8200RDS and KEX-P820RDS differ from the KEH-P9200RDS as follows.

KEH-P8200RDS

- This is not a DYNAS tuner. (It has no DYNAS function.)
- There is no amplifier input terminal. (When a DSP or an Equalizer is connected, the speaker cannot be connected to the internal amplifier in this unit. A separately sold amplifier is required.)

KEX-P820RDS

- This is not a DYNAS tuner. (It has no DYNAS function.)
- There is no internal amplifier. A separately sold amplifier is required.

Note to Customers Using this Unit in Combination with the "DEQ-P800" Hideaway DSP

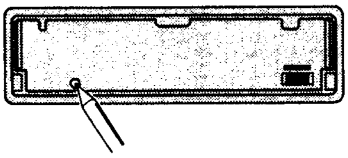
This manual does not describe operating procedures for combined use with the "DEQ-P800" Hideaway DSP. Please refer to the Hideaway DSP Owner's Manual for DSP operating details.

Using the Clear Button

Pressing the Clear button will reset the microprocessor. Press the Clear button in the following cases:

- When using the unit for the first time after connecting it.
- When there is a misoperation.
- When the display indicates a misoperation.

Remove the front panel and use the tip of a pen, etc., to press the Clear button. (To remove the front panel, refer to "Detaching the Front Panel".)



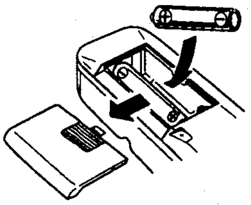
Using the Remote Controller

Parts Identification

Fig. 27
[7] Remote Controller Sensor

Fig. 28
[21] DSP

Inserting the Batteries

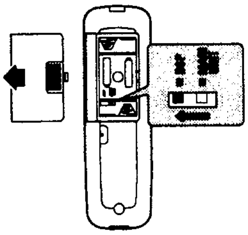


Precautions

- *Do not place the remote control unit in high temperatures or in direct sunlight.*
- *Install the batteries in the proper direction.*
- *Use only UM-4, AAA, or IEC R03 1.5 V batteries.*
- *Do not mix old and new batteries.*
- *The batteries provided with the unit are not rechargeable. Therefore do not recharge them.*
- *If the remote control unit is not to be used for more than a month, remove the batteries.*
- *If there is battery leakage, wipe the leakage completely and install new batteries.*
- *Hold the remote controller with your hand and point it toward the remote controller sensor [7] when performing an operation.*
- *It is extremely dangerous if the remote controller should fall to the floor and become lodged under the brake pedal when braking or cornering. When you are not using the remote controller, always keep it in place with the Velcro tape provided.*
- *It may not be possible to perform remote control operations if the remote controller sensor [7] is exposed to direct sunlight.*
- *Button [21] is for use of the unit in combination with a DSP.*

Note to Customers Using this Unit in Combination with a DSP except for the "DEQ-P800" Hideaway DSP

When using this unit in combination with a DSP except for the "DEQ-P800" Hideaway DSP, first set the switch on the rear of the remote controller to the DSP position, using the tip of a pen, etc. The system will not work properly unless this is done.



Using the Removable Front Panel

Parts Identification

Fig. 27
[2] Open
[4] Front Panel
[11] ③ Warning Buzzer ON/OFF

Function

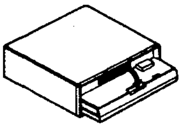
To prevent theft, the front panel is detachable. Also, if the front panel is not detached within 5 seconds after the car's ignition is turned off, a warning beep tone will sound to remind you to detach the front panel.

Canceling the Warning Beep Tone

The warning beep tone function can be canceled. While pressing button ③ fo bank [11], turn the ignition key from OFF to ON. To turn ON the warning beep tone function again, repeat this operation.

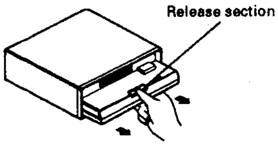
Detaching the Front Panel

1. Press button [2], and the front panel [4] will open.



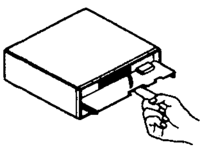
2. Grip the release section and pull the front panel forward.

- *Take care not to grip the front panel display tightly, or to drop the panel.*

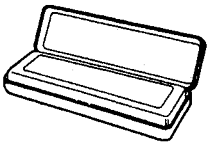


3. Close the inner cover.

- *After detaching the front panel, be sure to close the inner cover to prevent dirt, dust or other foreign matter from entering the cassette slot.*



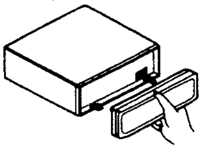
4. Keep the detached front panel in the protective case provided.



Fitting the Front Panel

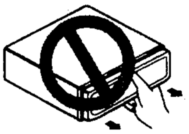
1. Check that the inner cover is closed.
2. Press the front panel onto the body of the unit.

- *Take care not to press any buttons or the display while doing this.*

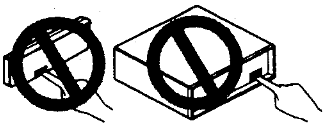


Precautions

- *Do not use unnecessary force in detaching the front panel.*



- *Do not hold the display tightly.*
- *Do not subject the front panel to excessive shock.*
- *Do not place the front panel in high temperatures or direct sunlight.*
- *Do not use benzene, paint thinner, or other volatile fluids to clean the front panel.*
- *Do not disassemble the front panel.*
- *Do not touch the terminals on the front panel and unit. (If the terminals are dirty, use a clean dry cloth to clean.)*



Switching the Source

Parts Identification

Fig. 27
[3] Source Switching
[10] ⑦ AUX ON/OFF

Fig. 28
[19] Source Switching (Tape Deck, Tuner)
[20] Source Switching (Multi-CD Player)

Switching the Source on the Main Unit

Each time button [3] is pressed, the source changes in the following sequence:
Tape deck → Tuner → Multi-CD player → OFF

Switching the Source Using the Remote Controller

Each time button [19] is pressed, the source changes in the following sequence:
Tape deck → Tuner → OFF
Each time button [20] is pressed, the source changes in the following sequence:
Multi-CD player → OFF

- The source will not be switched to the tape deck if there is no cassette tape in the deck.
- The source will not be switched to the multi-CD player if a multi-CD player is not connected, or if a magazine is not loaded in the player.

When connecting other audio equipment to the IP-BUS terminal of the main unit using the separately sold conversion cord.
When listening to the audio equipment, carry out the following operations to switch to AUX mode.

1. While pressing ⑦ of button [10], turn the ignition key from OFF to ON.
2. Switching sources allows selection of AUX mode. Therefore, press button [3] to switch to AUX mode.
   Tape → Tuner → Multi-CD player → AUX → OFF

- When performing an operation with the remote controller, the mode is not switched to AUX.

Switching the Display

Parts Identification

Fig. 27
[5] Display Switching

Fig. 29
[28], [29] Message Displays

Switching the Message Display

Displays [28] and [29] change as follows each time button [5] is pressed:
Source and mode symbol → AF/TA indicator → Signal indicator

When the Unit Is Used in Combination with the "DEQ-P800" Hideaway DSP
When the unit is used in combination with the "DEQ-P800" Hideaway DSP, display [28] and [29] change as follows each time button [5] is pressed:
Source and mode symbol → AF/TA indicator → Signal indicator → SFC* symbol → Equalizer curve
*SFC: Sound Field Control

- Display [28] and [29] are useful for checking the SFC and equalizer curve settings.

Making Audio Adjustments

Parts Identification

Fig. 27
[1] Volume

Fig. 28
[15] Shift/SLA
[16], [17] Audio Adjustment
[18] Volume
[22] Attenuator

Fig. 29
[25] Loudness
[38] Sub-woofer

Mode Switching

Each time button [15] is pressed, the mode changes in the following sequence:
Volume adjustment (VOL) → Balance adjustment (FAD/BAL) → Tone adjustment (BAS/TRE) → Sub-woofer (SUB.W) → Loudness adjustment (LOUD)

- When a fader, balance, or bass/treble adjustment is made, the adjustment stops temporarily at the center position. The display changes back to its previous state approximately 8 seconds after an adjustment is made.

When the Unit Is Used in Combination with the "DEQ-P800" Hideaway DSP
When the unit is used in combination with the "DEQ-P800" Hideaway DSP, the mode changes in the following sequence each time button [15] is pressed:
Volume adjustment (VOL) → Balance adjustment (FAD/BAL) → Automatic volume adjustment (ASL) → Sub-woofer (SUB.W) → Loudness adjustment (LOUD)

- The mode will not be switched to Tone adjustment.
- Please refer to the Hideaway DSP Owner's Manual for the use of automatic volume adjustment (ASL).

Adjusting the Volume

The volume is increased by pressing the (+) side of button [1] or [18], and decreased by pressing the (–) side. (Display shows "VOL 00" ~ "VOL 30".)

- *When driving, the volume should be adjusted to a level that allows sounds outside the vehicle to be heard.*

Adjusting the Balance

Press button [15] to select the balance adjustment mode ("FAD" lights). Fader adjustments are made using the ▲ or ▼ side of button [16]. To adjust the balance, press either the ◀◀ or ▶▶ side of button [17] to display "BAL", then make the adjustment with the ◀◀ or ▶▶ side of the button.

Fader
The balance is gradually changed to front speaker sound only, by pressing the ▲ side of button [16], and to rear speaker sound only, by pressing the ▼ side. (Display shows "FAD F9" ~ "FAD R9".)

- When a two-speaker system is used, you should set "FAD 0".

Balance
The balance is gradually changed to left speaker sound only, by pressing the ◀◀ side of button [17], and to right speaker sound only, by pressing the ▶▶ side. (Display shows "BAL L9" ~ "BAL R9".)

Adjusting the Tone

Press button [15] to select the tone adjustment mode ("BAS" lights). Use the the ◀◀ or ▶▶ side of button [17] to select the tone you want to adjust. Pressing the ◀◀ side selects BAS, and pressing the ▶▶ side selects TRE.

Bass Adjustment

Select the bass adjustment mode. Bass intensity is gradually increased by pressing the ▲ side of button [16], and decreased by pressing the ▼ side. (Display shows "BAS –6" ~ "BAS +6".)

Treble Adjustment

Select the treble adjustment mode. Treble intensity is gradually increased by pressing the ▲ side of button [16], and decreased by pressing the ▼ side. (Display shows "TRE –6" ~ "TRE +6".)

Sub-woofer

When a sub-woofer is used with the unit, the sub-woofer setting should first be switched to ON.

Using the Sub-woofer Function

1. Press button [15] repeatedly to change to the sub-woofer mode ("80Hz 0" is displayed).
2. When button [15] is pressed for 2 seconds or more, "SUB.W" [38] lights, and the sub-woofer setting changes to ON.
3. To cancel the sub-woofer function, press button [15] repeatedly to change to the sub-woofer mode, and press button [15] for 2 seconds or more while the sub-woofer display is shown.

Adjusting the Frequency and Output Level

1. Press button [15] repeatedly to change to the sub-woofer mode.
2. Adjust the the frequency and output level adjustment while the sub-woofer display is shown. Press the ◀◀ or ▶▶ side of button [17] to adjust the frequency, and press the ▲ or ▼ side of button [16] to adjust the output level. The frequency can be set to 50 Hz, 80 Hz, or 125 Hz, and an output level can be selected in the range from –6 to +6.

Adjusting the Loudness

The loudness function compensates for deficiencies in the low and high sound ranges when listening to the unit at low volume.

1. Press button [15] to select the loudness adjustment mode (display shows "LOUD OFF").
2. Pressing button [15] for 2 seconds or more turns the loudness function ON ("LOUD" [25] lights). To cancel the loudness function, press button [15] again for 2 seconds or more ("LOUD" [25] goes off).

Using the Source Level Adjuster

This function compensates for the difference in volume when the source is switched.

- Compensation is performed on the basis of the FM volume, and therefore the FM volume cannot be adjusted.

1. Check the FM volume.
2. Switch to the source you want to adjust, and check the difference in volume between that source and FM.
3. Press button [15] for 2 seconds or more to change to the SLA mode. The current level, "V 0", is displayed.
   - The SLA mode is canceled after 8 seconds.
4. Adjust the volume level by pressing the ▲ or ▼ side of button [16]. (Display shows "V –4" ~ "V +4".)

Attenuator

Pressing button [22] reduces the volume by approximately 90% ("ATT" flashes). The original volume is restored by pressing the button once again.

Using the Tuner

Parts Identification

Fig. 27

[3] Source Switching
[6] AF
[8] TA
[10], [11] Preset
[10] Functions
    ⑦ PTY Display Switching
    ⑧ PTY Seek/PTY Setting
    ⑨ Local Mode/Local Sensitivity
    ⑩ DYNAS (KEH-P9200RDS)
    ⑪ Preset Scan/BSM
    ⑫ FM Monaural/Seek, Manual Switching
[12] Function Switching

Fig. 28

[14] Band
[16] Preset Tuning
[17] Tuning
[19] Source Switching

Fig. 29

[23] FM Stereo
[24] Preset Number
[26] Band
[27] Frequency
[28] AF
[29] TA
[30] Function
[31] TP
[32] EON
[33] REG
[34] PTY
[35] Manual
[36] FM Monaural
[37] Local Mode

Function Switching

Button [10] has two functions. It switches FM monaural, BSM, etc. ON and OFF, and it also serves as the preset button for the FM1 band. Press button [12] to switch the function as desired.

Functions ON ([30] lit)

To use the buttons in bank [10] with functions such as FM monaural and BSM, set functions ON.

Functions OFF ([30] off)

Leave the functions OFF when using button [10] as the preset button for the FM1 band.

Listening to the Radio

Electronic Tuner

Frequency allocation differs depending upon the area. This unit has been designed in accordance with the frequency allocations for Western Europe, Asia, the Middle and Near East, Africa, Australia and Oceania. Use in other areas may result in improper reception of AM. The RDS function does not work in regions with no RDS broadcast services.

1. Press button [3] or [19] to switch the source to the tuner.
2. Press button [14] to select the band. The band changes each time the button is pressed as follows:
   FM1 → FM2 → MW/LW
   - MW and LW together comprise one band.
3. Select a station using manual tuning or seek tuning.

3–1. Pressing button ⑫ of bank [10] for 2 seconds or more switches between seek and manual tuning alternately. When manual tuning is selected, "MANU" [35] lights.

3–2. Tune by pressing the ◀◀ or ▶▶ side of button [17]. (When a stereo station is tuned in, "⚭" [23] lights.)

- When the function is OFF, switching between seek and manual tuning can not be done in FM1 stations. Press button [12] to turn the function ON.

Seek Tuning

When the button is pressed, a station with a signal of a given strength or greater is tuned in automatically.

Manual Tuning

When the button is pressed, the frequency changes step by step.

Preset Memory

The radio stations can be stored in memory under buttons 1 to 6 of [11].

- FM1 bands can be stored in the memory of button [10] (7 to 12). Leave the function OFF when storing memory into button [10].

1. Tune in to the station to be stored in memory.
2. Store the station in memory by pressing one of the buttons (1 to 6) for at least 2 seconds. When the [24] number stops blinking and there is a beep, the station will be stored in memory under the button pressed.
   - Up to 18 FM stations (12 stations on FM1 and 6 stations on FM2) and 6 MW/LW stations can be sotred in memory.

Preset Tuning

The radio stations stored in memory can be recalled by pressing the respective button 1 to 6 of [11]. The station stored under that button will be recalled. (The number of the button pressed will be displayed at [24].)

- The FM1 band can recall broadcast stations stored in the memory of button [10]. Set functions OFF before recalling a station memorized in one of the buttons in bank [10].
- When using the remote controller, a station memorized in a button in bank [10] or [11] can be recalled by pressing the ▲ or ▼ side of button [16].

Note:
When using a button in bank [10] in the operations in the following sections, turn functions ON first.

BSM (Best Stations Memory)

The radio stations having a strong signal can be tuned automatically and stored in memory under buttons 1 to 6 of [11]. Press ⑪ of button [10] for at least 2 seconds. (The "BSM" will blink.) After "BSM" stops blinking, the stations will be stored in memory under buttons 1 to 6 of [11].

- The FM1 band can also be stored in the memory of button [10].
- BSM can be canceled mid-operation by pressing ⑪ of button [10].
- The stations will be stored under buttons 1 to 6 in the order of their signal strength. The strongest station will be stored under button 1, followed by stations with lower signal strengths.
- If there are fewer than 6 stations whose signal is strong, there will be spare memory.
- It will take almost 30 seconds for BSM to be completed.

Preset Scan Tuning

This recalls in sequence all the stations stored in memory under the buttons [11] for 8 seconds each. Press ⑪ of button [10]. (The [24] number will blink.) To cancel, press the button again. After the desired station is tuned, cancel the preset scan tuning. The station will then continue to be received.

- Stations stored in memory under the buttons [11] but whose signal is weak will not be recalled.
- The FM1 band can recall broadcasting stations stored in the memory of button [10].

Local Seek Tuning

When the local mode is selected, seek tuning sensitivity changes and only stations with a stronger signal than in the case of normal seek tuning are tuned to. The local mode sensitivity can also be adjusted.

To Select Local Mode

Press button ⑨ of bank [10]. ("LOC" [37] lights.) To cancel local mode, press the button once again.

Adjusting Local Seek Sensitivity

The sensitivity can be adjusted in 4 steps for FM and 2 steps for MW/LW.

- LOC-4 tunes in only the stations with the strongest signals, and LOC-3, LOC-2, and LOC-1 tune in stations with progressively weaker signals.

1. Select the local seek sensitivity adjustment mode. Press button ⑨ of bank [10] for 2 seconds or more. (The current sensitivity is displayed.)
   - The local seek sensitivity adjustment mode is canceled after approximately 5 seconds.
2. Press the ◀◀ or ▶▶ side of button [17] to adjust the sensitivity.

FM Monaural Reception

If the noise in a stereo broadcast is distracting, you can reduce the noise by switching to monaural reception. Press button ⑫ of bank [10]. ("MONO" [36] lights.) To cancel monaural reception, press the button once again.

DYNAS Function (KEH-P9200RDS)

If the FM broadcast being received is not clear because of interference from another station, interference from other stations can be prevented by turning on the DYNAS function.

Pressing button ⑩ of bank [10] for 2 seconds or more switches the DYNAS function ON and OFF alternately.

Using the RDS Function

What is RDS?

RDS (Radio Data System) according to a CENELEC EN50067 is a system for transmitting data signals from FM broadcast transmitter along with the normal sound program. These data signals, which are imperceptable to listeners, are intended to aid radio listeners in tuning their receivers to a desired station. RDS receivers can decode these data signals for display or control purposes.

RDS digital signal includes various data, such as PI, PS, AF, TP, TA, EON and PTY.

PI	**Program Identification Code**
PS	**Program Service Name**
AF	**List of Alternative Frequencies**
TP	**Traffic Program Identification Code (Similar to SK signal of ARI system)**
TA	**Traffic Announcement Code (Similar to DK signal of ARI system)**
EON	**Enhanced Other Network Information Code. (In some countries, EON is not offered by broadcasters.)**
PTY	**Program type ID code**

RDS Function of this Unit

This unit has the following functions for making use of RDS data.

- PS, the name of the currently listened station is displayed.
- AF (Alternative Frequency) function. This enables the receiver to automatically retune to more suitable frequencies transmitting the same program.
- TP/TA, EON, user selectable reception of the traffic information service, offered by RDS.
- The PTY code permits automatic reception of the broadcast having the same type of program.

Network/Station Name Display

Switch the tuner on and choose one of the 2 FM bands.

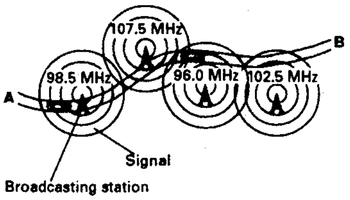
When you tune into an RDS station with manual or seek tuning, the frequency display changes to the network/station name display after a few seconds by means of the PS code.

- The RDS functions of this unit use RDS codes transmitted along with FM broadcasts. RDS doesn't work on the MW or LW bands.
- The RDS functions may not work properly in areas where the RDS transmissions are at an experimental stage or where there are flaws in the broadcasting system.
- Hold down button ⑦ of Bank [10] for more than 2 seconds to change the network/station name display to a frequency display. The frequency will be displayed only while the button is being held down.

AF Function

This receiver retunes automatically to a more suitable transmitter, contained in the list of Alternative Frequencies (AF), to enable the motorist to keep listening to programs in the same network.

Example:
If a motorist travels as shown below, from point A to point B, (and has selected AF function) then the receiver will automatically retune to a more suitable frequency transmitting the same program. This is shown by the automatic retuning from 98.5 MHz to 107.5 MHz to 96.0 MHz to 102.5 MHz.



To activate the Alternative Frequency Function, press button [6], "AF" [28] will appear on the display. Once tuned to a RDS station, as long as you drive within an area served by the same network, the receiver will automatically retune to a more suitable station transmitting the same program, by utilizing the data in the AF list.

- "PI SEEK" will appear on the display, if the AF function has been selected, and a suitable AF station cannot be found. In this case, the receiver will mute the radio sound and search the frequency band, in order to find a station with the same PI code. The receiver will return to the original frequency if the same or related PI code cannot be found.
- The AF function will not work in the following cases:

- — when the receiver is tuned to a non-RDS station. (local station)
- — when the RDS station does not transmit any AF list data.
- — when the receiver cannot receive the AF list due to disturbances.

When the receiver is unable to find a PI code, the box of "AF" [28] will start rotating.
Thus indicating that the AF function cannot be performed.

Preset Recall

- When recalling preset stations in the AF mode, the tuner will be tuned to the stored frequency and the AF function will be operative i.e. when the signal of the recalled station is weak or has a different PI, the radio will look into the AF list and if necessary start a PI-seek in order to find a station with the same or related PI code. When the tuner is performing a PI seek "PI SEEK" is shown on the display.
  If the PI seek is successful, the tuner will be tuned to the new frequency that transmits the same program service (i.e. with the same PI code) and the display will show the stored PS.
  If the PI seek is not successful, the tuner will return to the stored frequency. If a new station (with a different PI code) would be received on this frequency, this station will become audible.
- When recalling preset stations in the AF=OFF mode, the tuner will be tuned to the stored frequency and the display will show the stored PS. In case the tuned station has a PI code that is different from the stored one, the tuner will accept the new PI code and stay tuned to the initial fréquency. The display will show the new PS when the signal of the tuned station is strong enough.

Listening to Regional Stations

In some countries a particular program service may "opt out" during a certain part of the day in several regional variants at particular locations. Since these regional variants are broadcasting a different program they temporally have a PI and a PS that is different from the main program service. The PI's are mostly "generically linked". The AF list may either be common for all regional variants or each regional variant may have its own AF list.
In other countries there may be regional stations which are not an "opt out" of a particular main program service but which have an independent existence. These regional stations all have a different PS. Their PI's may be "generically linked" and their AF lists may carry frequencies which are alternatives for that regional station only.

1)Regional OFF Mode

When AF is ON and REG is OFF, the receiver will switch automatically to regional stations that are likely to be broadcasting the same program but which do not necessarily match the region code. If this results in repeated reception of undesired different program contents, switch to the REG ON mode.

2)Regional ON Mode

When AF is ON and REG is ON, the receiver will switch automatically only to regional stations that precisely match the region code and are therefore definitely broadcasting the same program.

REG ON/OFF

To put the radio in the REG ON mode, press button [6] for more than 2 seconds. "REG" [33] will appear on the display.
To cancel the REG ON mode i.e. to put the radio back in the default REG OFF mode, press button [6] again. "REG" [33] will disappear from the display.

PTY Function

This unit's PTY function uses the PTY codes put out by the RDS station to provide three functions: PTY Display, PTY Seek, and PTY Alarm.

- PTY Display is a function that shows the program type of a received station if the broadcast station is an RDS station and is putting out a PTY code.
- PTY Seek is a function that receives RDS stations broadcasting the program type that the user has selected beforehand.
- PTY Alarm is a function that receives an RDS station after picking up an emergency PTY alarm code put out by that station when a natural disaster or nuclear accident, etc., has occurred.

PTY Indication switching

When an RDS station is received, the network/station name display appears. At this point, if the unit has picked up the PTY code, press [10] the ⑦ button, and PTY (program type) will be displayed for 8 seconds.

- PTY display contents are of the following 16 types: NO PTY, AFFAIRS, CLASSICS, CULTURE, DRAMA, EASY MUS, EDUCATE, INFO, L.CLASS, NEWS, OTH MUS, POP MUS, ROCK MUS, SCIENCE, SPORT, VARIED
- Some stations may broadcast program contents that differ from the PTY code.
- "NO PTY" is displayed when no PTY code can be picked up from the received station.

Setting the program type

1. Press and hold down [10] the ⑧ button for at least 2 seconds to switch to the PTY setting mode. ("PTY" [34] will light and the program types will be shown on the display for about 5 seconds.)
2. While the program types are shown on the display, press the ◀◀ side or ▶▶ side of the [17] button to select the type that you want.

Note:
In the CURRENT mode, if the currently received station is an RDS station and the PTY code has already been picked up, then the program type is automatically set to match that station's PTY code.

PTY Seek

For automatic reception of RDS stations having the PTY code that you have selected beforehand.
Pressing [10] the ⑧ button causes your selected program type to flash on the display and PTY SEEK to begin ("PTY" [34] flashes).

- PTY seek automatically receives RDS stations having a different PI code with the set PTY code. However, it will return to the previous station if "NO PTY" is displayed.
- If PTY SEEK is unsuccessful, "NO PTY" will be shown on the display for about 2 seconds, after which it will return to the station received before PTY SEEK began.
- Non TP RDS stations may be received during PTY seek even if TA (Traffic Information Standby) is on. In this case an alarm sounds after about 30 seconds to tell you that it is not a TP station.

PTY Alarm

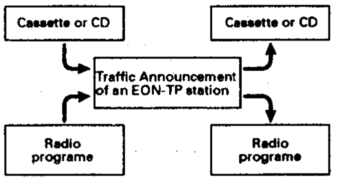
Among the PTY codes there is also one for emergency announcements warning of natural disasters, nuclear reactor accidents, etc. In case of such disasters, RDS stations may output this emergency PTY alarm code. When this unit is ON (not during MW/LW reception), and this PTY code is picked up, ALARM will light on the display, volume will be set to TA interrupt level, and that RDS station will be received. When the RDS station stops putting out the emergency PTY alarm code, the unit will return to the previous source. To return to the previous source during reception of the emergency program, press button [8].

Traffic Information Reception

TP and EON-TP function

When a traffic information station (TP station) is selected, "TP" [31] lights on the display, thus indicating traffic report can be received through this station. The "EON" [32] and "TP" [31] indicator will light on the display when a selected station (this network) is broadcasting EON information which cross-references at least one program service which carries traffic information, thus indicating traffic report can be received through another program service by using the EON function of this unit.
In both cases, by briefly pressing button [8], traffic report waiting status will be entered.

Traffic information reception by EON-TP



Traffic Announcement Volume Adjustment

- The volume level for traffic information broadcasting is temporarily stored in memory.

TP Alarm Function

- In TA mode, about 30 seconds after "TP" [31] disappears from the display, which occurs if the signal from the TP becomes weak, an alarm sounds for 10 seconds to tell you to tune to another TP station.

TA Reception during CD or Cassette Play

- If the radio is already set to the FM band and tuned to a TP or EON-TP station, even when listening to the cassette or the multi-play CD player, when the button [8] is pushed ("TA" [29] is shown on the display), traffic report waiting will begin. When a traffic report begins, the system will switch from cassette or CD to the traffic report.

BSA Function

- While button [8] is on, ("TA" [29] is shown on the display) and AF is off, and you are listening to either the cassette or multi-play CD player, should the TP station become weak, the radio will start BSA (Best TP Station Auto Search) 10 seconds after "TP" [31] disappears from the display. The tuner will automatically tune to the strongest TP station in the area, and will stand by for a traffic bulletin. BSA does not work when the AF function is selected, so press button [6] to turn the AF function off.

TP Alarm Function

- In AF mode, about 30 seconds after "TP" [31] disappears from the display, which occurs if the signal from the TP becomes weak, an alarm sounds for 10 seconds to tell you to tune to another TP station.

Tuning Functions on each RDS mode

Tuning Mode	AF Mode	TA Mode & AF plus TA Mode
Seek Tuning will stop to find,	RDS Stations	TP or EON-TP Station
BSM will select and memorize in presets,	RDS Stations	TP Stations

Non-RDS stations such as those using the Swedish MBS system may be tuned in as RDS stations, but this is due to both systems using the same 57 kHz subcarrier frequency and is not a malfunction of the unit.

Tuning Steps

The tuning step is normally 50 kHz during seek tuning on an FM band. However this tuning step changes to 100 kHz when the set is in AF or TP mode. In some countries it may be desired to set a tuning step of 50 kHz in AF mode by holding down button ① of Bank [11] while turning the ignition key from OFF to ON.

- During manual tuning, the step does not change; it remains fixed at 50 kHz.
- The tuning step will return to 100 kHz if the batteries supply is temporarily disconnected or the clear button is pressed.
- In AF mode, only those stations being broadcast at 100 kHz steps are subject to AF reception (CENELEC STANDARD).

Using the Tape Deck

Parts Identification

Fig. 27

[2] Open
[3] Source Switching
[4] Front Panel
[10] Functions
  ⑦ FLEX (Frequency Level Expander)
  ⑧ Dolby B and C NR
  ⑨ Blank Skip
  ⑩ Radio Intercept/CD Intercept
  ⑪ Scan Playback
  ⑫ Repeat Playback

Fig. 28

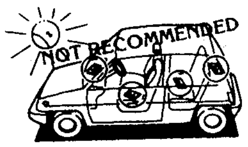
[14] Tape Direction Switching
[17] Fast Forward/Rewind and Music Search
[19] Source Switching

Fig. 30

[39] Metal
[40] FLEX (Frequency Level Expander)
[41] Dolby B and C NR
[42] Tape Direction Display
[43] Continuous Playback Time Display
[44] Repeat Playback
[45] CD Intercept
[46] Radio Intercept

About Cassette Tapes

- *Do not use tapes longer than C-90-type (90 min.) cassettes. Longer tapes can interfere with tape transport.*
- *A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.*
- *Storing cassettes in areas directly exposed to sunlight or high temperatures can distort them and subsequently interfere with tape transport.*



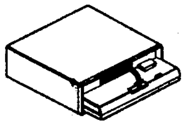
- *Store unused tapes in a tape case where there is no danger of them becoming loose or being exposed to dust.*

Cleaning the Head

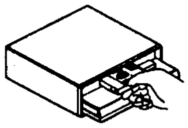
- *If the heads become dirty, the sound quality will deteriorate and there will be sound dropouts and other imperfections in performance. In this case, the head must be cleaned.*
- *When using a cleaning tape, play it once on one side for normal cleaning. Excessive use of the cleaning tape will increase head wear.*
  Be sure to read the cleaning tape instructions before use.

Listening to a Tape

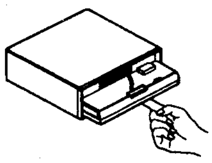
1. Press button [2] to open the front panel [4].



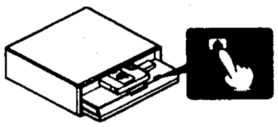
2. When a cassette tape is inserted into the cassette slot, power will be turned on and the tape will begin playing.



3. Close the front panel and adjust the volume and tone.



4. To stop playback, press button [3] or [19] to switch the source OFF.
5. To eject the cassette, press button [2] to open the front panel [4], then press the Eject button.



- When a cassette is already loaded, tape playback can be turned ON/OFF by pressing button [3] or [19].
- *Do not try to eject the cassette immediately after insertion, as it may result in malfunction. Only eject a cassette when it is playing.*

Continuous Playback Time

During tape playback, the continuous playback time is shown in [43] in the display.

- The continuous playback time count is halted at the following times.
  — When the power is turned OFF.
  — When you switch to another source.
  — When fast-forwarding/rewinding and while the Music Search function is operating.
- The continuous playback time count starts at "00'00" at the following times.
  — When a tape is inserted.
  — When the tape direction is changed by pressing button [14].
  — When the tape switches from side A to side B, or vice versa.

Tape Direction Switching

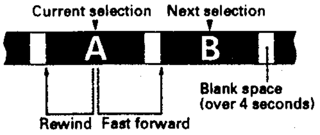
Pressing button [14] switches tape playback from side A to side B, or vice versa. ">>>>" is displayed in [42] when side A is playing, and "<<<<" when side B is playing.

Fast Forward/Rewind

1. To fast-forward a tape, press the ▶▶ side of button [17]. ("FF" appears in the display.)
   To rewind a tape, press the ◀◀ side of button [17]. ("REW" appears in the display.)
2. To cancel fast-forwarding or rewinding, press button [14].

Music Search

1. If you want to listen to an A track again from the beginning, press the ◀◀ side of button [17] twice in succession. ("R-MS" appears in the display.)
   If you want to listen to a B track from the start, press the ▶▶ side of button [17] twice in succession. ("F-MS" appears in the display.)
   Normal playback is restored by pressing the button three times in succession.



2. To cancel the music search function, press button [14].

- The Music Search function may not work properly with the following kinds of recorded tapes because the gap between tracks cannot be found correctly.
  — A tape with a gap of 4 seconds or less between tracks.
  — A tape containing dialog, etc., with pauses lasting for 4 seconds or longer.
  — A tape with an extremely quiet passage in the music lasting for 4 seconds or longer.

Dolby B and C NR

When playing a tape recorded with Dolby NR, press button ⑧ of bank [10]. Pressing button ⑧ of bank [10] switches alternately between Dolby NR modes as follows:
Dolby B NR ("ᗡᗞ" [41] lit) → Dolby C NR ("ᗡᗞC" [41] lit) → Cancel

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Metal Tape Display

When a cassette tape is inserted, equalizer (70 μs/120 μs) switching is performed automatically by the auto tape selector feature, and when a metal or chrome tape is inserted, "MTL" [39] lights. Nothing is displayed for a normal tape.

Blank Skip

This function fast-forwards to the next track automatically if there is a long period of silence (12 seconds or more) between tracks.
Pressing button ⑨ of bank [10] switches the blank skip function ON and OFF alternately.

Radio Intercept and CD Intercept

The CD intercept function only works when an optional multi-CD player (such as the CDX-P1210) is used with this unit. Pressing button ⑩ of bank [10] switches the mode as follows:
Radio Intercept ("RI" [46] lit) → CD Intercept ("CDI" [45] lit) → Cancel

- The radio intercept and CD intercept functions do not work during a Music Search operation.

Radio Intercept

This function allows you to listen to the radio during tape fast-forwarding/rewinding.

1. Press button ⑩ of bank [10] to switch to the radio intercept mode. When fast-forwarding or rewinding is performed, the unit will switch to the radio.
2. To cancel the radio intercept mode, press button ⑩ of bank [10].

CD Intercept

This function allows you to listen to a CD during tape fast-forwarding/rewinding.

1. Press button ⑩ of bank [10] to switch to the CD intercept mode. When fast-forwarding or rewinding is performed, the unit will switch to the CD.
2. To cancel the CD intercept mode, press button ⑩ of bank [10].

Scan Playback

This function plays approximately the first 10 seconds of each track in succession. This is useful for finding a particular track you want to hear.

1. When button ⑪ of bank [10] is pressed, the first 10 seconds of each track is played in succession. ("SCAN" appears in the display.)
2. When you find the track you want to hear, press button ⑪ of bank [10] again to cancel scan playback and hear the rest of the track.

- The scan playback function may not work properly with the following kinds of recorded tapes because the gap between tracks cannot be found correctly.
  — A tape with a gap of 4 seconds or less between tracks.
  — A tape containing dialog, etc., with pauses lasting for 4 seconds or longer.
  — A tape with an extremely quiet passage in the music lasting for 4 seconds or longer.

Repeat

The repeat function lets you hear the same track over again.

1. Pressing button ⑫ of bank [10] allows you to repeat the track being played. ("RPT" [44] lights.)
2. The repeat function can be canceled by pressing button ⑫ of bank [10] again, or pressing button [14].

- The repeat function may not work properly with the following kinds of recorded tapes because the gap between tracks cannot be found correctly.
  — A tape with a gap of 4 seconds or less between tracks.
  — A tape containing dialog, etc., with pauses lasting for 4 seconds or longer.
  — A tape with an extremely quiet passage in the music lasting for 4 seconds or longer.

FLEX (Frequency Level Expander)

If the high-frequency performance is poor when playing back an old or poorly recorded cassette, you can improve it by pressing button ⑦ in Bank [10]. ("1 / f" [40] appears.)

- This function may have little effect on a casstte offering good sound quality, for instance, one recorded from compact disc.

Playing a CD

Precautions When Using the Multi-CD Control

- This unit can control multi-CD players when it is used with multi-CD player (such as the CDX-P1210).
- If the IP-BUS extension adapter is used, up to 4 multi-CD players can be connected. When two or more CD players are connected, their priorities must be specified for the Multi-CD players. See the Multi-CD players instructions and set the address switches correctly.

Parts Identification

Fig. 27

[3] Source Switching
[10], [11] Disc Number Search
[10] Functions
    ⑦ Display Switching/Disc Title
    ⑧ Pause/Random Playback
    ⑨ Title List/ITS Clear
    ⑩ ITS/ITS Playback
    ⑪ Scan Playback/Digital Compression
    ⑫ Playback Mode Switching /Track Number Search– Fast Forward, Rewind Switching
[12] Function Switching

Fig. 28

[14] Multi-CD Player Switching
[16] Disc Number Search
[17] Track Number Search/ Fast Forward, Rewind
[20] Source Switching

Fig. 31

[47] Multi-CD Player Number
[48] Disc Number
[49] Track Number
[50] Playback Time
[51] Function
[52] COMP
[53] One Track Repeat
[54] Disc Repeat
[55] Magazine CD Repeat
[56] Random
[57] Fast Forward/Rewind
[58] DBE

Using the Multi-CD Player

1. Press button [3] or [20] to switch the source to the multi-CD player. (The multi-CD player number [47], disc number [48], track number [49], and playback time [50] are displayed.)
- When you turn the power on or change the disc to be played, the multi-CD player may perform a preparatory operation (verifying there is a disc, reading disc information, etc.). "READY" is displayed during this time.
- If the multi-CD player is unable to operate normally, an error message will appear on the display (e.g. "ERROR-80"). If this happens, check the meaning of the error message in the multi-CD player Instruction Manual.

2. To stop disc playback, press button [3] or [20] to switch the source OFF.
- When CD playback is started again, it will begin near the track at which playback was stopped.

Switching functions

Button [10] has two functions. It switches ITS, random playback, etc. ON and OFF and it also serves as the disc number search. Press button [12] to switch the function as desired.

- If a 6-Disc Multi-play CD-player is connected, switching between functions ON and OFF cannot be performed even if button [12] is pressed.

Functions ON ([51] lit)

When using buttons in bank [10] with a function such as ITS or random playback, you should first turn functions ON.

Functions OFF ([51] off)

When using buttons in bank [10] to search the disc number, you should first turn functions OFF.

Switching the multi-CD player

A maximum of 4 multi-CD players can be connected to this unit.
Press button [14] to choose the desired CD player. The number of the CD player is indicated in [47] on the display.

Disc number search

Select the disc using buttons [10] and [11]. The disc number is indicated in [48] on the display.

- Leave the function OFF when selecting a disc using button [10].
- When using the remote controller, the disc, set in the multi-CD player is switched each time the ▲ or ▼ side of button [16] is pressed.

- It takes a few seconds for CD playback to begin after a button is pressed. This is the time taken to change the disc.

Note:
Leave the function ON when using button [10] for the following operations.

Track Number Search

The track number search function lets you select a particular track on a disc. Check that "MANU" does not light in display [57]. If it does, turn it out by pressing button ⑫ of bank [10] for 2 seconds or more.
The track number [49] is incremented by pressing the ▶▶ side of button [17], and decremented by pressing the ◀◀ side. Holding down the button will increment/decrement the number continuously.

Fast Forward/Rewind

1. Press button ⑫ of bank [10] for 2 seconds or more. "MANU" [57] will light.
2. Press the ▶▶ side of button [17] to fast-forward, or the ◀◀ side to rewind.
- Playback can be heard while fast-forwarding or rewinding.

Pausing

The disc playback can be stopped temporarily by pressing ⑧ of button [10]. (The "PAUSE" will be displayed.) To cancel the pause, press the button again.

Repeat

You can select one of the play modes (repeat modes) listed below.

Play mode (repeat mode)	Operation
One-Track Repeat	Play the current track repeatedly. • When you perform track number search or fast forward or rewind, the mode changes to disc repeat mode. • Switching the multi-CD player being played or the disc switches to magazine repeat mode.
Disc Repeat	Play the same disc repeatedly. • Switching the multi-CD player being played or the disc switches to magazine repeat mode.
Magazine Repeat	Play all discs loaded in the magazine in the multi-CD player repeatedly. All discs in the magazine are played repeatedly from the first disc.
ALL Repeat*	The mode changes to this mode when 2 or more multi-play CD players are connected. Multi-CD players 1 to 4 are played.

* When 2 or more multi-CD players are connected.

Each press of button ⑫ in bank [10] causes the mode to change as follows:
One-Track Repeat ("RPT" [53] appears.) → Disc Repeat ("DISC" [54] appears.) → Magazine Repeat ("M-CD" [55] appears.) → ALL Repeat ([53] [54] [55] will disappear.)

Random Play

The microcomputer of the CD player selects plays tracks on discs in random order. Random play is performed according to the current play mode (repeat mode) as follows:

Play mode (repeat mode)	Tracks to be played at random
One-Track Repeat	All tracks on the disc being played. • The play mode changes to disc repeat mode.
Disc Repeat	All tracks on the disc being played.
Magazine Repeat	All tracks on the discs in the magazine being played.
ALL Repeat*	All tracks on all discs in multi-CD players 1 to 4.

* When 2 or more multi-CD players are connected.

1. Select the desired random play mode (repeat mode).
2. Hold down button ⑧ in bank [10] for more than 2 seconds. ("RDM" appears on the display [56].) To cancel random play, hold down button ⑧ in bank [10] for more than 2 seconds again. ("RDM" disappears.)

- Since selections are played in random order, the same selection may be played twice in succession.

Using Scan Play

The first parts of each track are played in succession for about 10 seconds. This function is useful to search for the track or disc you want to listen to. Scan is performed according to the current play mode (repeat mode) as follows:

Play mode (repeat mode)	Tracks to be scanned and played
One-Track Repeat	All tracks on the disc being played. • The play mode changes to disc repeat mode.
Disc Repeat	All tracks on the disc being played.
Magazine Repeat	The first tracks of all the discs in the magazine being played.
ALL Repeat*	First tracks of all discs loaded in multi-CD players 1 to 4.

* When 2 or more multi-CD players are connected.

1. Select the desired scan play mode (repeat mode).
2. Press button ⑪ in bank [10]. ("SCAN" appears on the display.) The first parts of all tracks are played in succession for about 10 seconds.
3. When you hear the track you want, press button ⑪ in bank [10] again to cancel Scan. ("SCAN" disappears.) The track (disc) being played is when played to the end.

- The previous function automatically resumes when a piece of music with which Scan began returns.

ITS (Instant Track Selection)

This function lets you program and play the tracks you want. You can listen to just your favorite tracks.

- The ADPS function* of the multi-CD player lets you program up to 100 discs. (Up to 100 discs can be programmed including disc title inputs.)
  * ADPS: Automatic Disc Program Selection
- Up to 99 tracks can be programmed for a single disc.
- From the 100th disc, the data for a new disc will overwrite the data of the oldest disc, that has not been played back (information has not been updated).
- Tracks are programmed for each disc. Programmed tracks are not erased after the disc is changed.

Programming

1. Play the track you want to program.
2. Press button ⑩ in bank [10] to program the track.
   ("ITS" appears on the display for 3 seconds.)

- Program tracks while ITS play is not in progress. It is possible during scan play or random play.

ITS Play

Tracks are played according to ITS play mode (repeat mode) as follows:

Play mode (repeat mode)	Tracks to be played by ITS
One-Track Repeat	Programmed tracks on the disc being played. • The play mode changes to disc repeat mode.
Disc Repeat	Programmed tracks on the disc being played.
Magazine Repeat	Programmed tracks on the discs in the magazine being played. • If the disc being played contains no programmed tracks, the next disc containing programmed tracks is played.
ALL Repeat*	Programmed tracks on all discs in all magazines in multi-CD players 1 to 4. • If the disc (multi-CD) being played contains no programmed tracks, the next disc (multi-CD) containing programmed tracks is played.

* When 2 or more multi-CD players are connected.

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1. Select the desired ITS play mode (repeat mode).
2. Hold down button ⑩ in bank [10] for more than 2 seconds. ("ITS.P" appears on the display.) To cancel ITS play, hold down button ⑩ in bank [10] for more than 2 seconds again. ("ITS.P" disappears.)

- If you try to play a track that is not programmed within the play range of the selected repeat mode by ITS, "EMPTY" will appear on the display for about 3 seconds, indicating that ITS play is not possible.
- You can perform scan play or random play during ITS play. In this case, scan play or random play applies to all the tracks stored in memory. (If the play mode is the magazine repeat mode or all repeat mode, scan play applies to all the tracks of the discs in the magazine stored in memory.)
- During ITS play, multi-CD players containing discs with programmed tracks are switched, and disc and track number search is performed on programmed tracks. So, you cannot switch to any tracks or discs that are not stored in memory.
- When you turn the power on or change the disc to be played, the multi-CD player may perform a preparatory operation (verifying there is a disc, reading disc information, etc.). "READY" is displayed during this time.

Erasing the ITS Program

You can erase one or all selections of the program for the disc being played by ITS.

To erase a single selection:

1. Start ITS play.
2. Play the track you wish to erase by using disc number search or track number search.
3. Hold down button ⑨ in bank [10] for more than 2 seconds.

- If programmed tracks are completely erased, "EMPTY" appears on the display and the ITS play will be canceled.

To erase the disc program:

1. Start normal play.
2. Play the disc you wish to erase by using disc number search.
3. Hold down button ⑨ in bank [10] for more than 2 seconds to erase the program. ("CLEAR" appears on the display for about 3 seconds.)

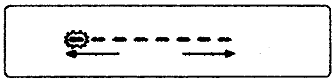
Disc Title Input

You can enter a title for the disc in the multi-CD player. The title stored for the disc can be displayed.

- The ADPS function* of the multi-CD player lets you enter titles for up to 100 discs. (Up to 100 discs, including ITS, can be programmed.)
  * ADPS: Automatic Disc Program Selection
- A disc title can consist of up 8 characters for a single disc.
- From the 100th disc, the data for a new disc will overwrite the data of the oldest disc, that has not been played back (information has not been updated).
- One title is stored for each disc. The title stored for a disc is not erased after the disc is changed.

Entering Titles

1. Select the disc for which you want to enter a title.
2. Hold down button ⑦ in bank [10] for more than 2 seconds to select title input mode.
3. Press the ◀◀ or ▶▶ side of button [17] to select the input position. The input position moves continuously when you hold down either side of the button.



4. Select characters using the ▲ or ▼ side of button [16]. When you hold down either side of the button, the character changes continuously. Each press of the ▲ side changes the character from "A → B → C...", while each press of the ▼ side changes the character from "C → B → A". To enter a space, select the space sign (_).
5. Enter all characters by repeating steps 3 and 4.
6. Press button ⑦ in bank [10] to store them in memory.
   The title will appear on the display.

Disc Title List

You can list all discs loaded in the magazine being played. This function is convenient for checking discs in the magazine being played.
Each press of button ⑨ in bank [10] displays the titles of the discs in magazine being played in ascending order of disc number.
The disc title list mode is displayed for about 8 seconds, then the normal operation display returns.

- Nothing is displayed for discs having no titles.
- Trays with no discs are skipped.

Select the disc to be played from the disc list display

1. Press button ⑨ in bank [10] to display the disc title.
2. When the title of the disc you want to listen to is displayed, press button ⑦ in bank [10]. That disc is played.

Display Switching

Pressing button ⑦ of bank [10] switches between the elapsed playback time display and the disc title display alternately.
Press button [14] during title indication to make the track display and playback time display appear for about 8 seconds.

- Nothing is displayed for discs having no titles.

CD sound quality adjustment function

If you connect a Multi-CD player with COMP (Compression) and D.B.E. (Dynamic Bass Emphasis) functions to this unit, you can use these functions with this unit. (If you connect a Multi-CD player that does not feature these functions, even if you try to switch to these functions, "NO COMP" is displayed, indicating that switching is not possible.)

COMP (Compression) function

This function suppresses loud sounds while boosting quiet sounds to reduce the difference between the two.
Use this function if there is distortion when you raise the volume.
When the COMP function is ON, "COMP" [52] lights in the display.

D.B.E. (Dynamic Bass Emphasis) function

When listening in a car, bass sound may be insufficient. This function boosts bass.
When the D.B.E. function is ON, "DBE" [58] lights in the display.

COMP and D.B.E. switching

You can switch between two COMP and D.B.E. levels.
Level switching of both functions at the same time is not possible.

1. Press button ⑪ in Bank [10] for more than 2 seconds to select the switching mode.
2. Each time you press button ⑪ in Bank [10], the mode changes as follows:
   COMP OFF → COMP 1 → COMP 2 → COMP OFF → DBE 1 → DBE 2 → COMP OFF

- With both COMP and D.B.E., the second mode is more effective.

Using the Clock

Parts Identification

Fig. 27
[9] Clock
[11] ① Hour adjustment
② Minute adjustment
③ Time signal adjustment

Displaying the Time

Pressing button [9] will turn the display to time indication. Pressing button [9] again will cancell the time indication.

- The colck display can be used only when the main unit is in operation.
- When the colck display is ON, pressing other buttons will release the colck display. The display will be restored approximately 25 seconds after the button operation has been completed.

Adjusting the Time

Adjusting Hours

While holding down button [9] , press button ① in bank [11], to adjust the hour setting of the colck. Each press of button ①, advances the hour setting by one hour, and holding it down advances the setting at high speed.

Adjusting the Minutes

While holding down button [9], press button ② in Bank [11], to adjust the minute setting of the colck. Each press button ②, advances the minute setting by one minute, and holding it down advances the setting at high speed.

- After the minute is adjusted, the clock will start from 0 second when button [9] is released.

Adjust the colck with the "Immedeate colck adjustment"

Hold down button [9] and press botton ③ in Bank [11]. The time becomes "○○:00".

- If the "minute" indication is 00 to 29, it is discarded, and the colck starts.
  (Example: If the time is "10:18", it becomes "10:00".)
- If the "minute" indication is 30 to 59, it is rounded up and the clock starts.
  (Example: If the time is "10:36", it becomes "11:00".)

Learn Function

Parts Identification

Fig. 27
[5] Learn Mode

Fig. 28
[13] Learn

One of the buttons on this unit can be memorized in button [13] on the remote controller.

1. Press button [5] for 2 seconds or more to set the learn mode. ("LEARN" appears on the display.)
   - The learn mode is canceled after 8 seconds.
2. Press the button on the unit which you want to memorize in the remote controller.
   - Button [2] cannot be memorized.

Regarding the Cellular Telephone Muting

When a call is received or placed with a cellular telephone, the cellular telephone muting will turn ON. When the phone is hung up, the muting will be canceled.

- No soud is produced.
- "CALL" will be displayed.
- The audio operation can not be done except volume control.